Service Manual
Marantz PM7001 Integrated Amplifier

Marantz PM7001 — усилитель с богатым прошлым. Современная внешность скрывает звучание, в которое вложен многолетний труд не одного поколения разработчиков

Совершенство внутри и снаружи

технология

Усилитель Marantz PM7001 имеет абсолютно узнаваемую внешность. Передняя панель из толстого алюминия со скругленными углами — фирменный стиль компании на протяжении многих лет. Еще один признак техники Marantz — идеальная сбалансированность в дизайне. Ровно посредине передней панели находится планка с индикаторами входов, внешне напоминающая шкалу радиоприемника, вокруг нее симметрично выстроились алюминиевые и стилизованные под алюминий органы управления. А набор кнопок, регуляторов и прочих элементов здесь достаточно богат. Причем настолько, что для командования аппаратом пульт может и не потребоваться. На фасаде расположились селектор входов и селектор записи, регулировки громкости, баланса и тембров, кнопки включения каждой из двух пар акустических систем и кнопка режиме Direct. И для полной симметрии кнопка включения, разъем для наушников и окошко приемника ИК-сигнала собраны в отдельную группу. В итоге каждая ручка или кнопка с одной стороны уравновешивается аналогичным или похожим элементом с другой.

В недрах же и вовсе царит полный инженерный фэн-шуй. Блоки усилителя имеют симметричную схемную топологию, что, по мнению разработчиков, позволяет добиться совершенной балансировки стереообраза. Также в конструкции использованы фирменные модули HDAM, призванные сохранить в первозданном виде динамическую структуру музыки, ее тональный рисунок и стереопанораму. Тем же целям служат примененная в усилителе токовая обратная связь и стабилизированный источник питания.

Прозрачно и чисто

опыт

Звучание Marantz PM7001 завораживает с первых секунд. Усилитель играет музыку легко, открыто и кристально чисто. Слышны малейшие шорохи, но при этом не возникает ощущения перекоса в тональном балансе и какого-либо преобладания верхних частот. Напротив, верха воспринимаются даже чуть суховато, что, впрочем, никоим образом не влияет на качество звука. Единственный участок диапазона, где четкости и собранности не хватает, это бас. Низкочастотный регистр подается временами слегка расслабленно и обобщенно.

Еще один удивительный момент — исключительно комфортное воспроизведение записей всех стилей и направлений. Обычно высокая детальность нередко приводит к быстрой утомляемости, а порой даже вызывает серьезный дискомфорт, однако в случае с Marantz PM7001 такой проблемы нет. Но все же претензии к усилителю есть. Он подает музыкальный материал хоть и достаточно подробно и ярко, но с преобладанием аналитической манеры. С ним невозможно сопереживать музыке, он ставит слушателя в позицию стороннего наблюдателя. Все музыкальные картины эффектно проносятся мимо, удивляя разум и не затрагивая душу. Впрочем, существуют ценители как раз такого звука, и для них Marantz PM7001 станет отличным подарком.

Преумножая мощь

совет

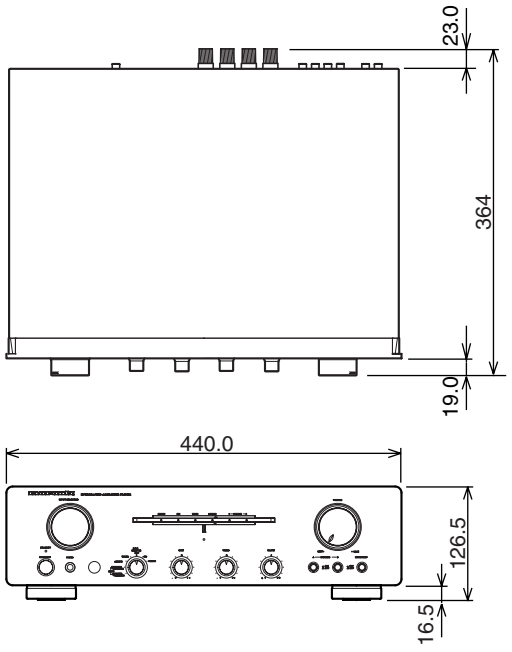
Наличие выхода PreOut позволяет подключить к усилителю дополнительный оконечник. Такой возможностью стоит воспользоваться, чтобы исправить недостатки звучания в низкочастотном диапазоне. С помощью двухусилительной схемы можно сохранить все преимущества Marantz PM7001 в средневерхнечастотном регистре, а в качестве усилителя для басового динамика подобрать более собранный и динамичный оконечник.

В конструкции использованы фирменные модули HDAM, призванные сохранить в первозданном виде динамическую структуру музыки, ее тональный рисунок и стереопанораму

1. TECHNICAL SPECIFICATIONS

Power output (20 Hz ~ 20 kHz simultaneous drive of both channels)
..... 70 W x 2 (8 Ω load)
..... 100 W x 2 (4 Ω load)
Total harmonic distortion (20 Hz ~ 2 0 kHz simultaneous drive of both channels, 8 Ω load) ..... 0.02 %
Power band width (8 Ω load, 0.05 %) .....5 Hz ~ 60 kHz
Frequency response (CD, 1 W, 8 Ω load ..... 5 Hz ~ 100 kHz ± 3 dB
Dumping factor (8 Ω load, 20 Hz ~ 20 kHz)..... 100
Input sensitivity/Input impedance
PHONO (MM)..... 2.5 mV/47 kΩ
CD, LINE, TUNER, AUX/DVD, RECORDER ..... 200 mV/20 kΩ
MAIN IN.....1.6 V/20 kΩ
Output voltage/Output impedance
PRE OUT ..... 16 V/560 Ω
Maximum allowed PHONO input (1 kHz)
MM .....130 mV
RIAA deviation (20 Hz ~ 20 kHz) .....± 0.5 dB
S/N (IHF-A, 1 W, 8 Ω load)
PHONO (MM)..... 85 dB (5 mV input)
CD, LINE, TUNER, AUX/DVD, RECORDER
..... 88 dB (500 mV input)
MAIN IN.....107 dB
Tone control
Bass (50 Hz) .....± 10 dB
Treble (20 kHz) .....± 10 dB
Power requirement ..... AC 230 V 50 Hz [/N]
Power consumption
(EN60065).....250 W
(4 Ω, 100 W x 2 output).....470 W

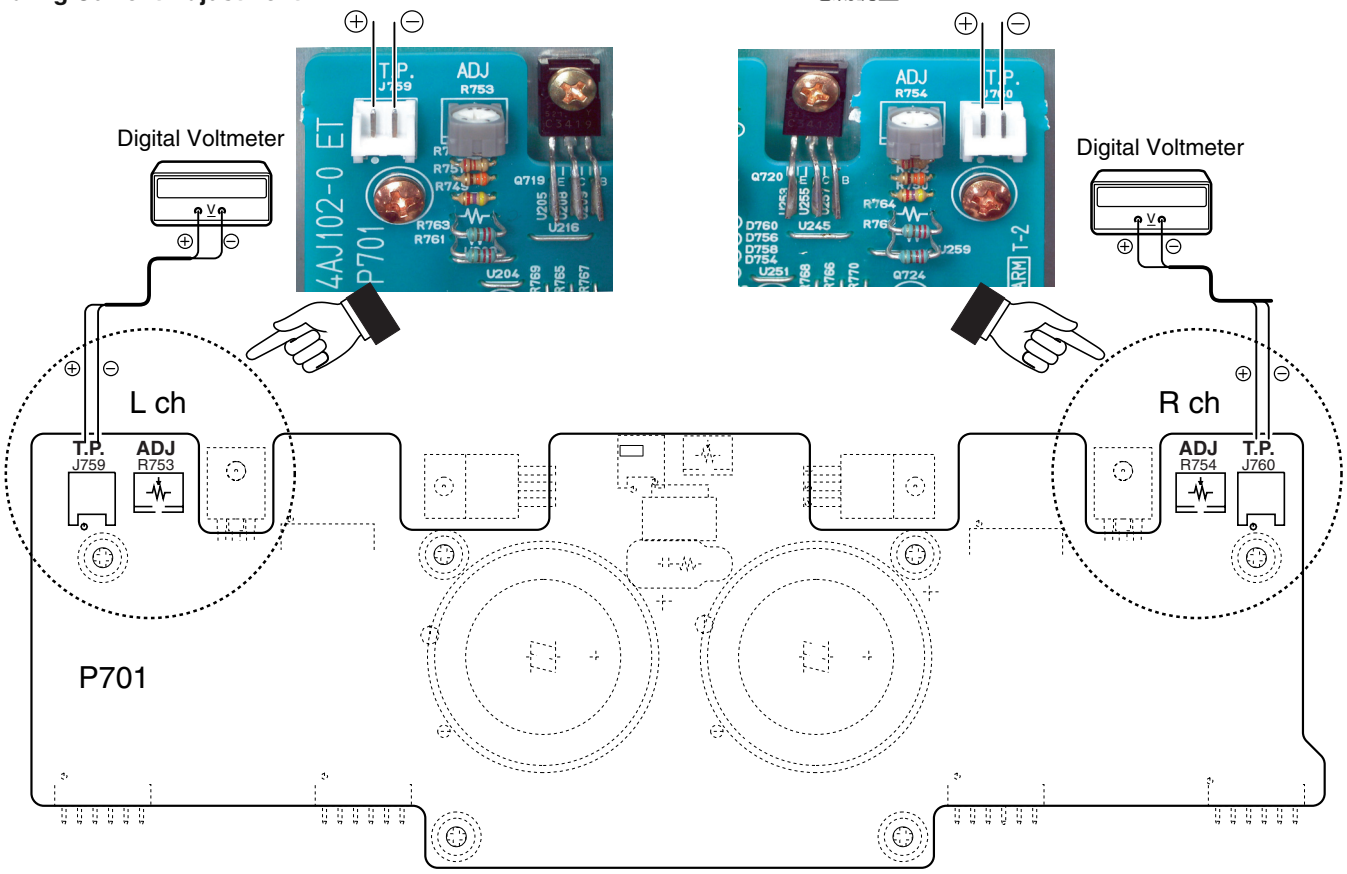
Accessories
Remote controller..... 1
AA batteries 2
Detachable AC power cable..... 1
Maximum outer dimensions (Amplifier)
Width ..... 440 mm
Height..... 126.5 mm
Depth ..... 364 mm
Weight (Amplifier) .....10.5 kg



2. ALIGNMENTS

Idling Current Adjustment

アイドリング電流調整



Adjustment Procedure

Set the power voltage to rated voltage for this adjustment.

1. Adjust the Idling Current with the variable resistor **R753** and **R754** on the PWB P701.
2. Turn off the power.
3. "**+**" of Connect Digital Voltage is connected to the **No. 1 pin** and connected "**-**" to **No. 2** pin of **J759**.
4. "**+**" of Connect Digital Voltage is connected to the **No. 1 pin** and connected "**-**" to **No. 2** pin of **J760**.
5. Before turning on the power, **R753** and **R754** have been counter clockwise turned with the adjustment driver.
6. Turn on the power, **VOLUME** is set as -∞.
7. After 2 minutes.
   With seeing the digital voltage meter turn the variable resister clockwise slowly to adjust the idling current.
   Idling adjustment with **R753 (R754)**.
   - Turn **R753 (R754)** clockwise to increase the idling current.
   - The adjustment value of idling current is **4 mV(20 mA) ± 0.5 mV(2.5 mA) each.**
8. After 7 minutes.
   Repeat the same procedure as 7.
   - The adjustment value of idling current is **12 mV(60 mA) ± 0.5 mV(2.5 mA) each.**

調整手順

調整時は必ず電源電圧を定格電圧に合わせてください。

1. P701 基板上の半固定抵抗 **R753** と **R754** でアイドリング電流を調整します。
2. 電源を OFF します。
3. P701 基板の **J759** にデジタルボルトメーターを接続します。デジタルボルトメーターは **J759** の **1** 番ピン（丸印側）を "**+**" 、2 番ピンを "**-**" に接続します。
4. P701 基板の J760 にデジタルボルトメーターを接続します。デジタルボルトメーターは **J760** の **1** 番ピン（丸印側）を "**+**" 、2 番ピンを "**-**" に接続します。
5. 電源を投入する前に半固定抵抗 **R753** と **R754** を、調整ドライバーで反時計方向に回しきってください。
6. 電源を投入しボリュームを -∞ にしてください。
7. 電源を投入後２分経過後。
   P701 基板の **J759**（**J760**）に接続したデジタルボルトメーターの電圧値を監視しながら、半固定抵抗 **R753**（**R754**）をゆっくりと時計向に回してください。
   - **R753** と **R754** を時計方向に回すとアイドリング電流が増加します。
   - アイドリング電流の調整値はそれぞれ "**4 mV(20 mA) ± 0.5 mV(2.5 mA)**" にします。
8. さらに "7 分 " 経過後。
   上記 7. の手順でもう一度調整します。
   - アイドリング電流の調整値はそれぞれ "**12 mV(60 mA) ± 0.5 mV(2.5 mA)**" にします。

Adjustment is completed.

9. Remove connection cable, attach the top cover.

   (Idling current decreases with the temperature rise inside the unit, and it is set to 10 mV (50 mA) of setting value in about 30 minutes after turn on the power.)

以上で調整は完了です。

9. デジタルボルトメーターの接続を外し、トップカバーを取付けます。

   （調整終了後トップカバーを取付けるとセット内部の温度上昇に伴いアイドリング電流が減少し、電源投入後約３０分で設定値の "10 mV(50 mA)" になります）。

3. SERVICE MODE

Microprocessor (Q201) version check

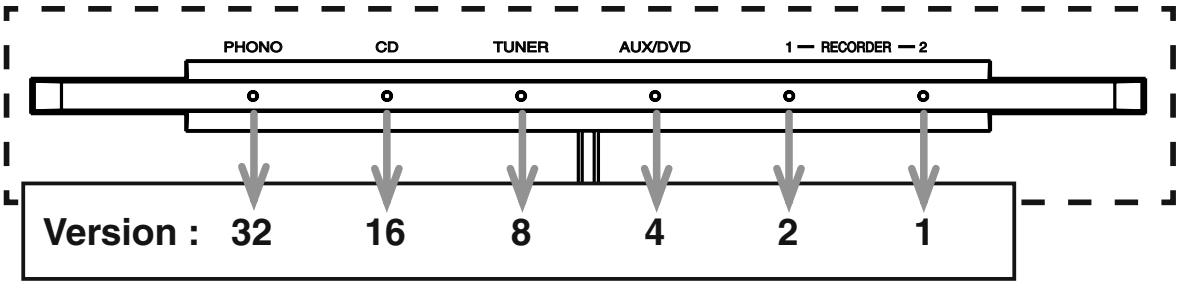
Operate by using [Remote controller RC4001PM]

1. Press the **POWER** button to turn on the unit.
2. Press **RECORDER 2 (TAPE)** button and press **7, 6, 0, 0** button on the remote controller.
   (Please each button within 3 seconds)
3. All LED light up then each LED light up then the firmware version is displayed on the front LED

Microprocessor (Q201) VERSION 確認

操作はリモコン（RC4001PM）を使用します。

1) **POWER** ボタンを押し、本体の電源をいれます。
2) リモコンの **RECORDER 2 (TAPE)**、**7**、**6**、**0**、**0** ボタンを順に押します。
   （各ボタンは 3 秒以内に押してください）
3) フロントパネルの LED が全点灯後、FIRMWARE のバージョンが LED にて表示されます。



The firmware version is displayed in the lighting position of LED.

Ex. :

Light up RECORDER-2(**1**), **Version: 1**
Light up RECORDER-2(**1**) and AUX/DVD (**4**), **Version: 5**
Light up RECORDER-2(**1**) and TUNER (**8**), **Version: 9**

4. Turn off the power to quit Service Mode.
   (The unit to the default status)

LED が点灯している箇所がバージョン表示です。

表示例 ：

点灯 RECORDER-2(**1**), **Version: 1**
点灯 RECORDER-2(**1**) and AUX/DVD (**4**), **Version: 5**
点灯 RECORDER-2(**1**) and TUNER (**8**), **Version: 9**

4) 電源を切ると SERVCICE モードが解除されます。
（本機は、各種設定された内容が初期化され、工場出荷時の状態に戻ります）

4. WRITING MAIN MICROPROCESSOR (Q201) PROCEDURE

Microprocessor needs writing software, when a microprocessor (Q201) is replaced.

NECESSARY EQUIPMENT

- Windows PC (OS : Windows2000 or WindowsXP) with Serial Port
- RS-232C Cable straight type
  (9 Pin female - 9 Pin female)
- Connection JIG (90M-PM11S1JIG)
- Writing Tool and some files
  (FlashProg.exe, etc... in TM86FH47pass folder)
- Writing data (PM7001_xxxx.h16)
  NOTE: xx is a revision number.

WRITING PROCEDURE

Disconnect the mains cord from the unit.
Connect RS-232C on the connection JIG and Serial Port of windows PC with RS-232C cable.
Connect FPC (upside contact) to the rear panel of the unit from connection JIG.

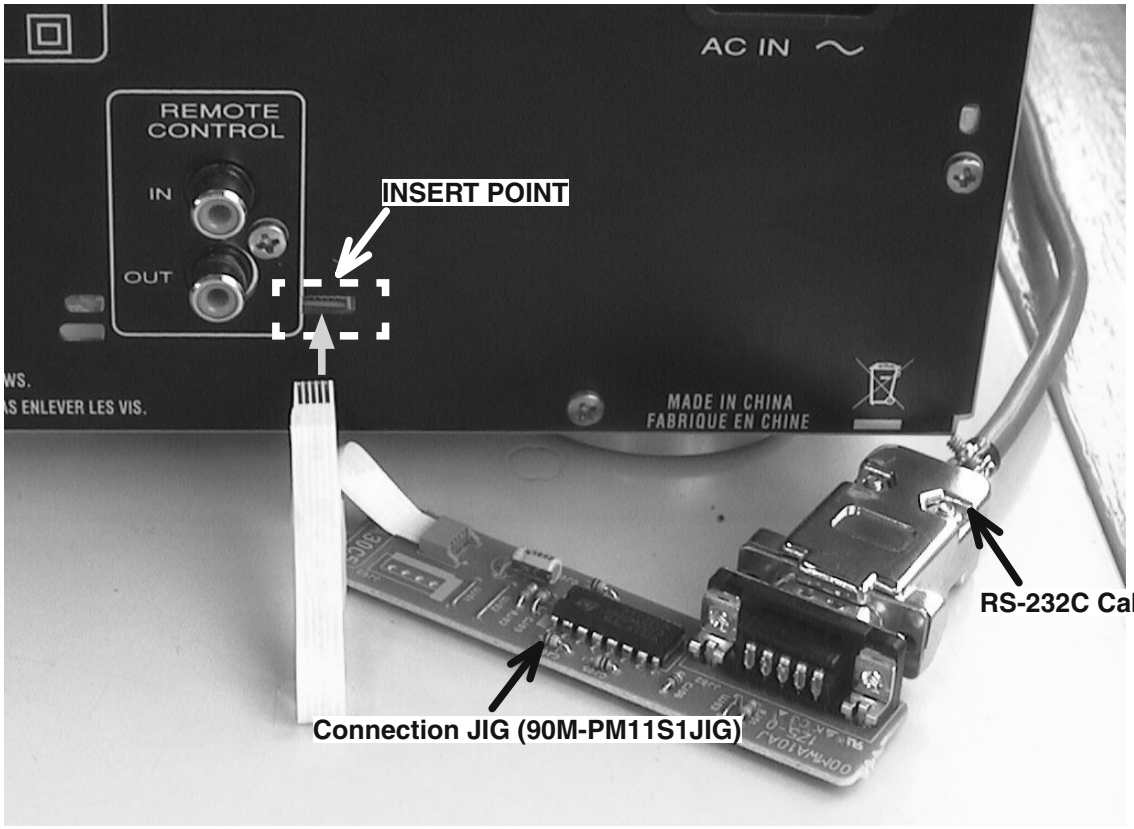
メインマイコン Q201 を交換したときは、Q201 へプログラムを書き込む必要があります。下記手順に従って書き込みをしてください。

必要機器

- Windows PC (OS : Windows2000 または WindowsXP) で Serial ポートのあるもの
- RS-232C ストレートケーブル (9Pin メス -9Pin メス)
- 接続冶具 (90M-PM11S1JIG)
- 書き込み用ソフトウェア一式
  (M86FH47pass フォルダ内 FlashProg.exe 、他)
- 書き込み用データ (PM7001_xxxx.h16)

書き込み手順

本機の電源ケーブルを抜きます。
Windows PC の Serial Port と接続冶具を RS-232C ケーブルで接続します。
本機のリアパネルに接続冶具の FPC をコンタクト面を上にして差し込みます。

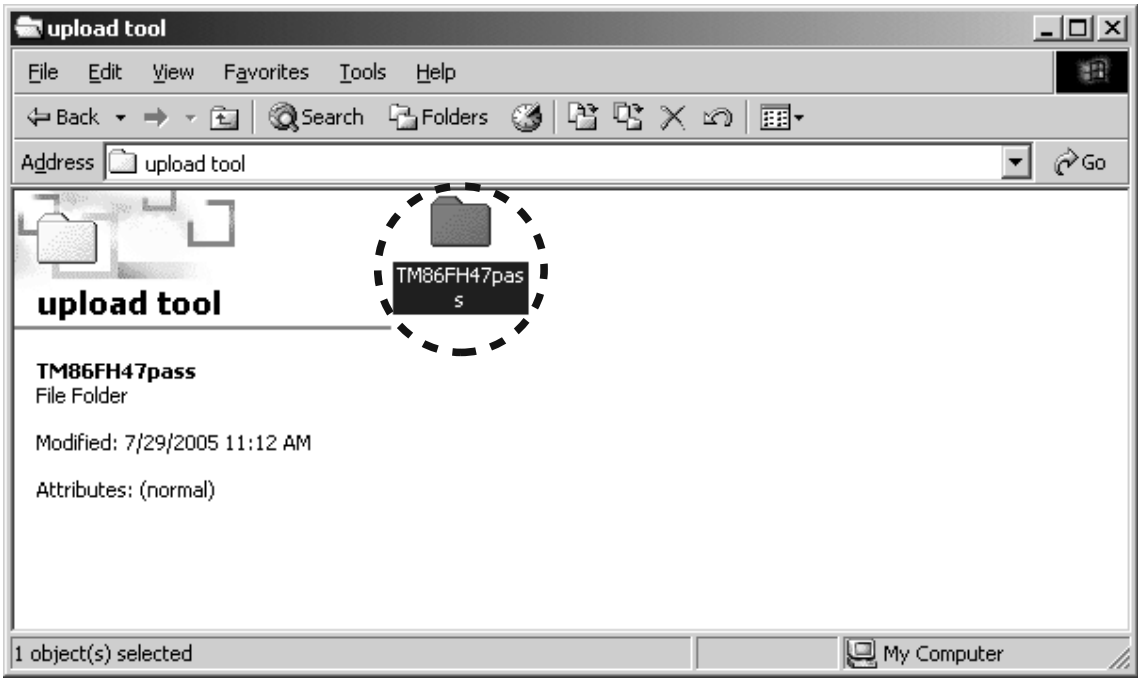


Reconnect the mains cord to the unit.
Put the "TM86FH47pass" folder into anywhere on your PC's hard disc.

本機の電源ケーブルを差し込みます。
TM86FH47pass フォルダを Windows PC の任意のフォルダにコピーします。

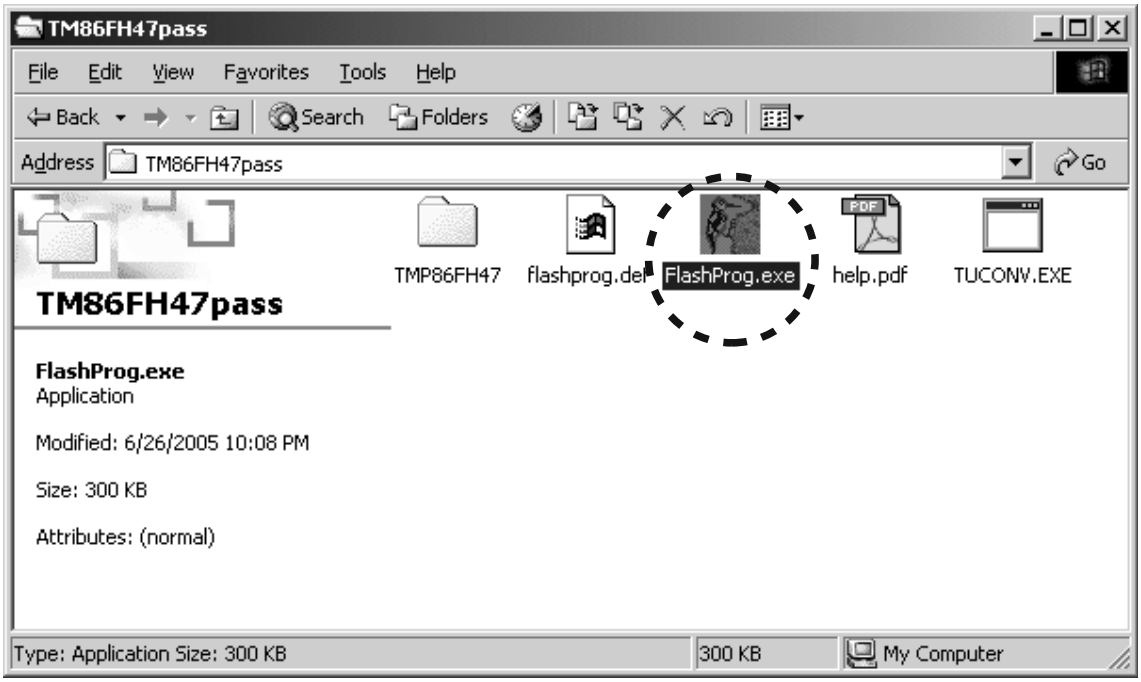
Double click the **TM86FH47pass** folder.

TM86FH47pass フォルダをダブルクリックして開きます。



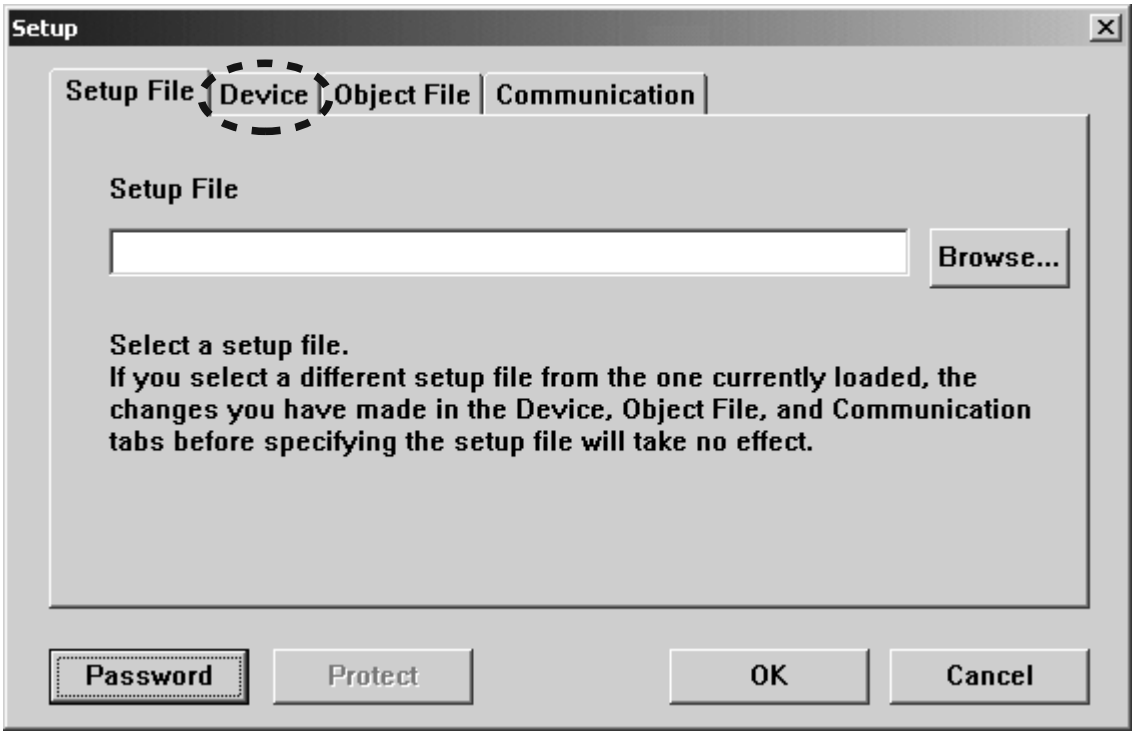
Double click **FlashProg.exe**.

FlashProg.exe をダブルクリックします。



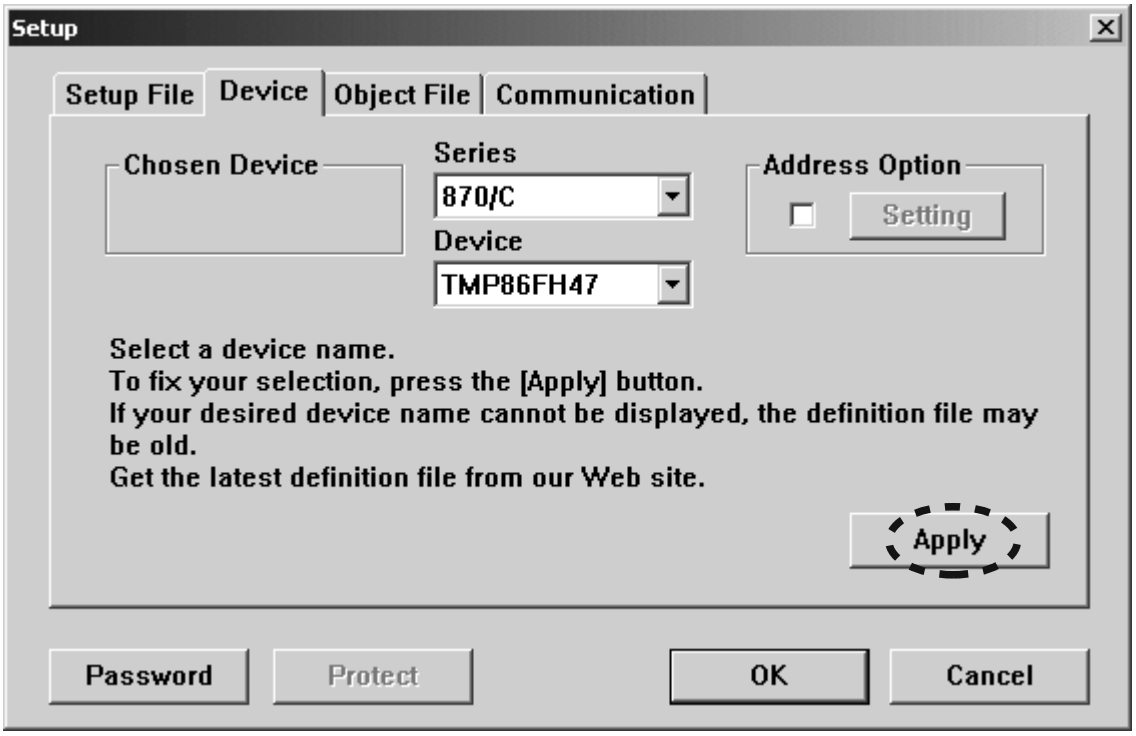
Click **Device**.

Device をクリックします。



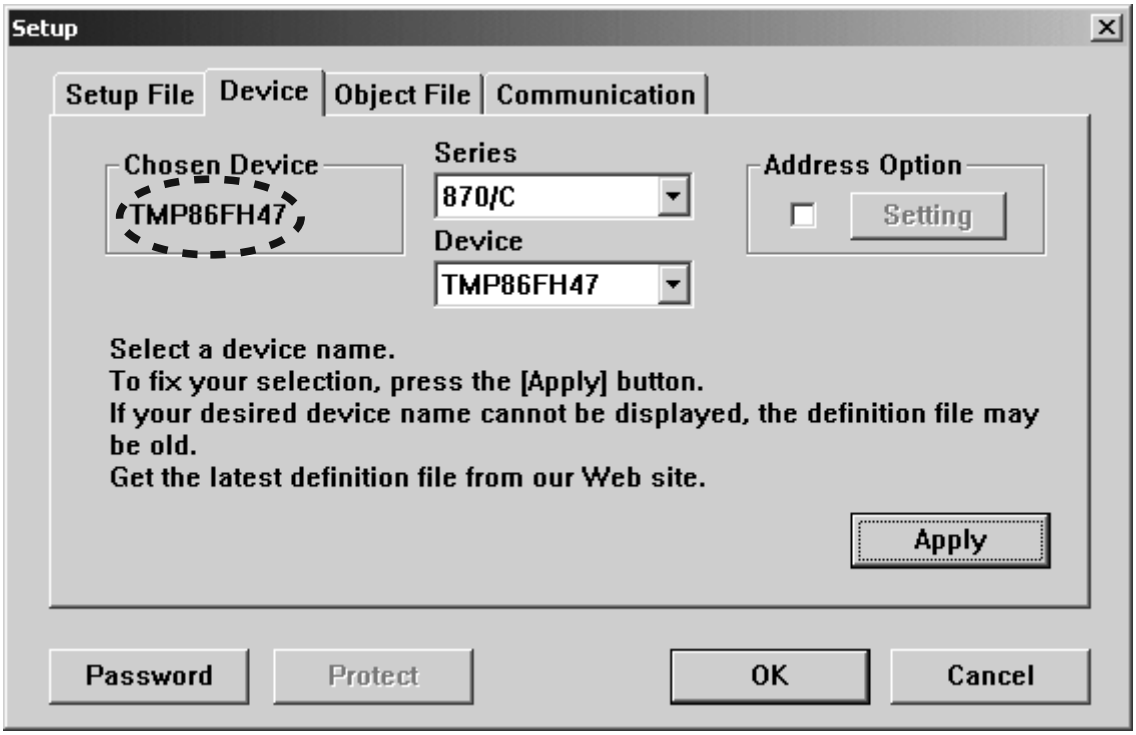
Click **Apply**.

Apply をクリックします。



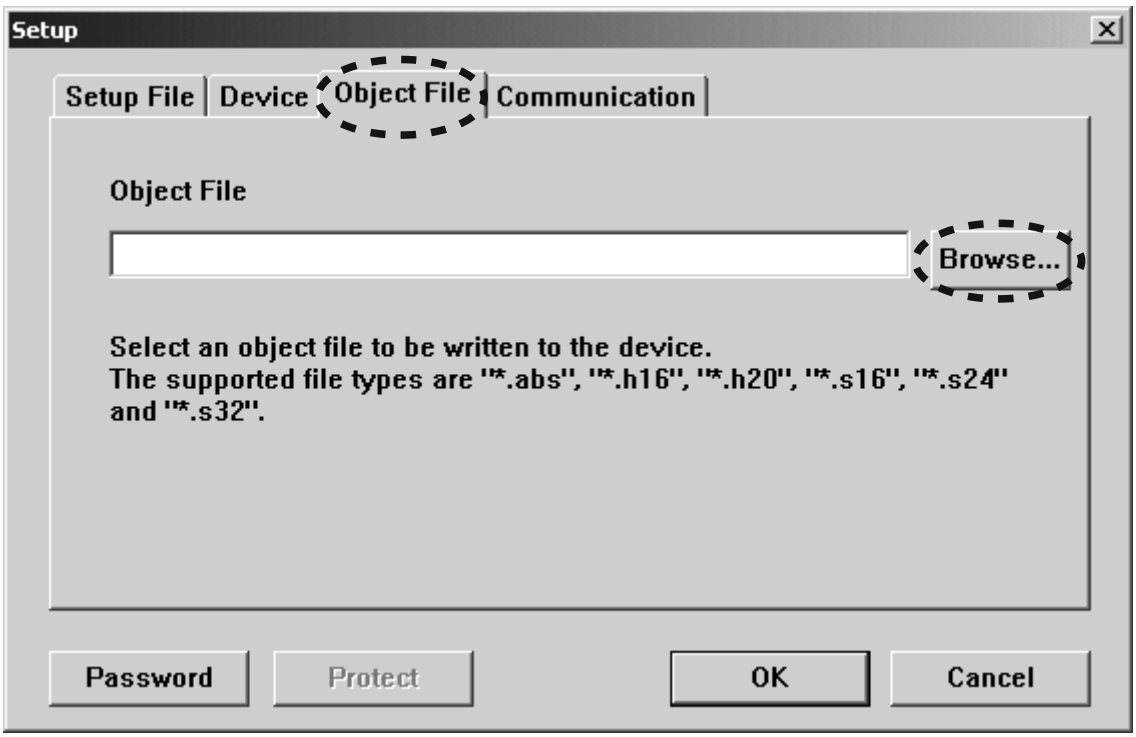
TMP86FH47 appear in Chosen Device.

Chosen Device に TMP86FH47 が入力されます。



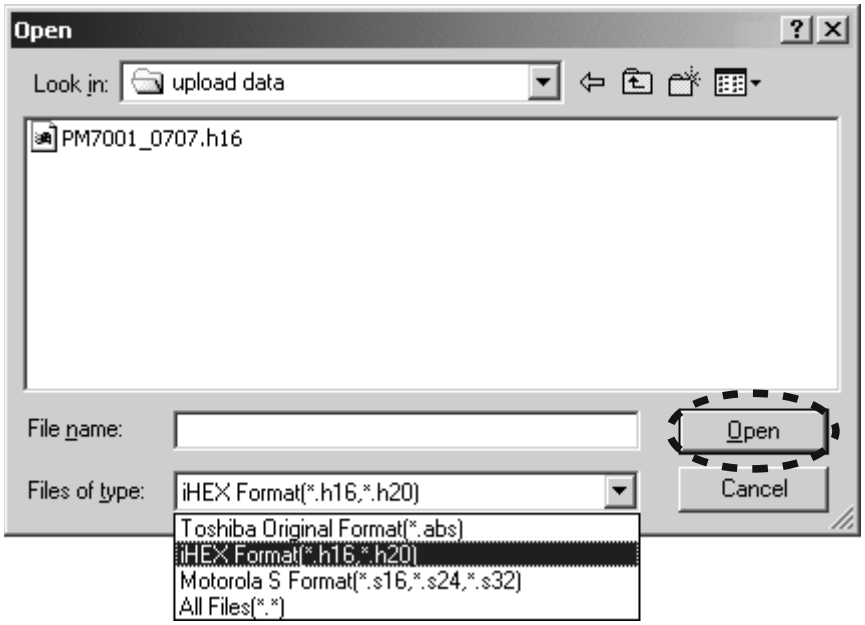
Click **Object File**, and click **Browse...**

Object File をクリックし、**Browse...** をクリックします。



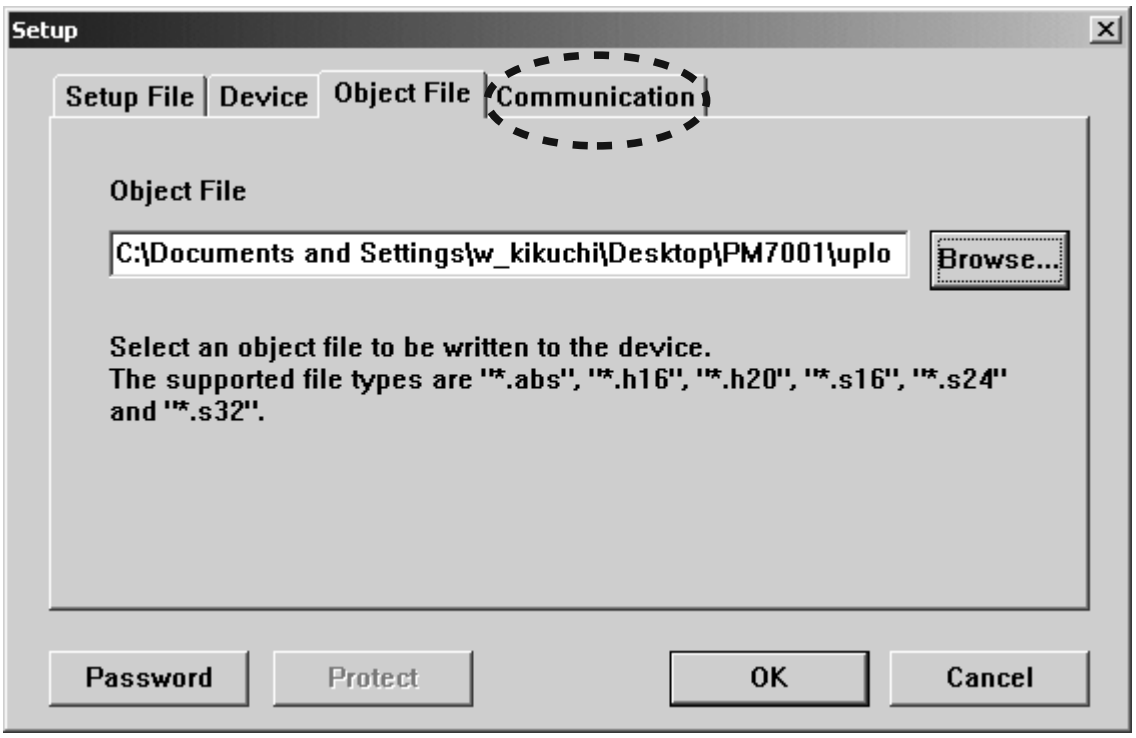
Choose **iHEX Fomat[*.h16,*.h20]** in Files of type.
Choose writing data, and click **Open**.

Files of type から **iHEX Fomat[*.h16,*.h20]** を選び、書き込み用データファイルを選択して **Open** をクリックします。(書き込むファイル名は変わることがあります。)



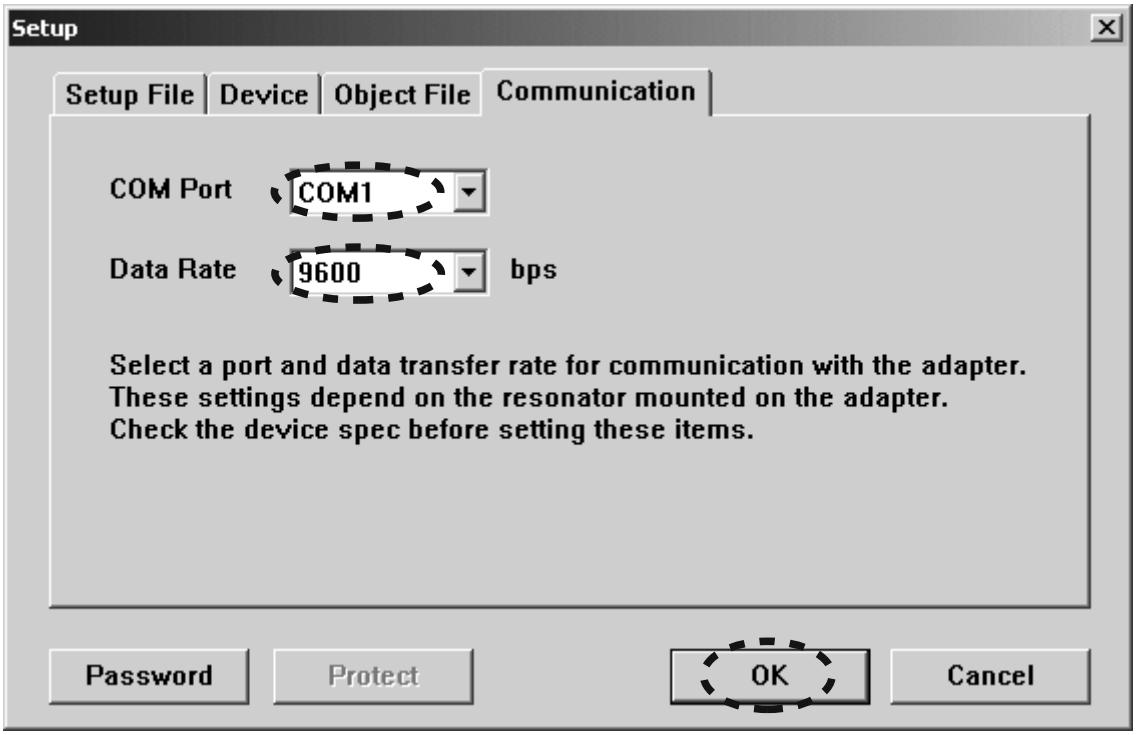
Click **Communication**.

Communication をクリックします。



Choose **COM port number** in COM port.
Choose **9600** in Data Rate.
Click **OK**.

COM Port から接続する **COM Port 番号**を選びます。
Data Rate から **9600** を選択します。
OK をクリックします。

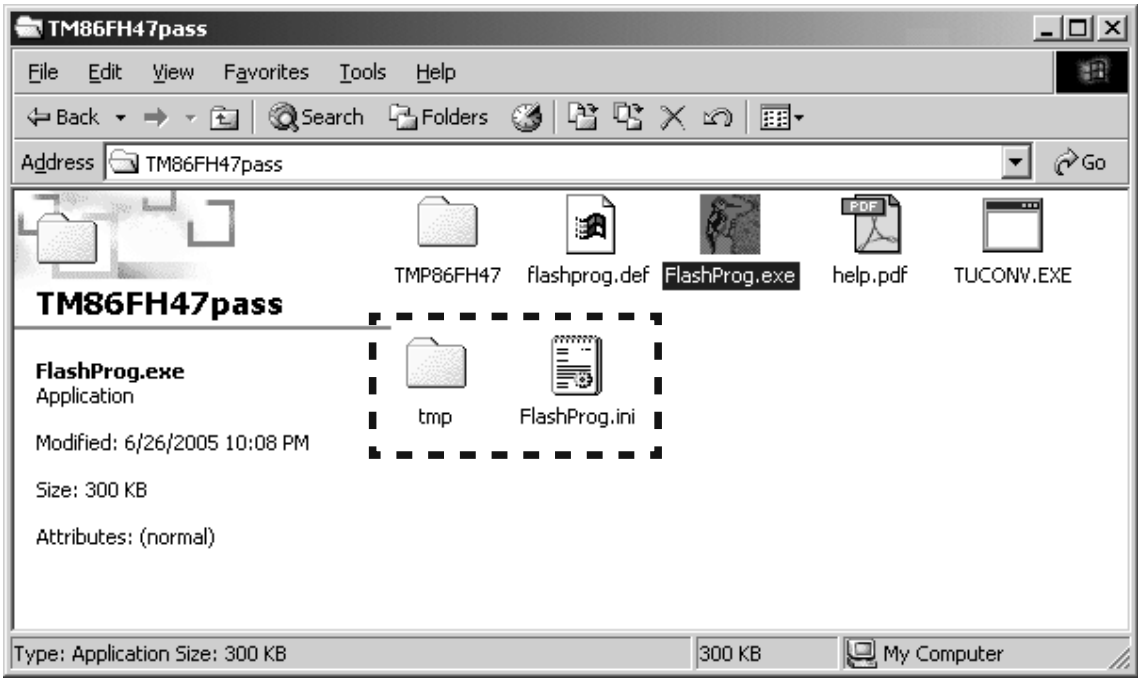


When Setup window is closed, the tmp folder and FlashProg.ini file are created simultaneously.

REMARK : These are the original set-up configuration files for that PC. If these files moved to another PC, you do not operate. When you make it operate with other PC, delete the tmp folder and the FlashProg.ini file and redo a setup.

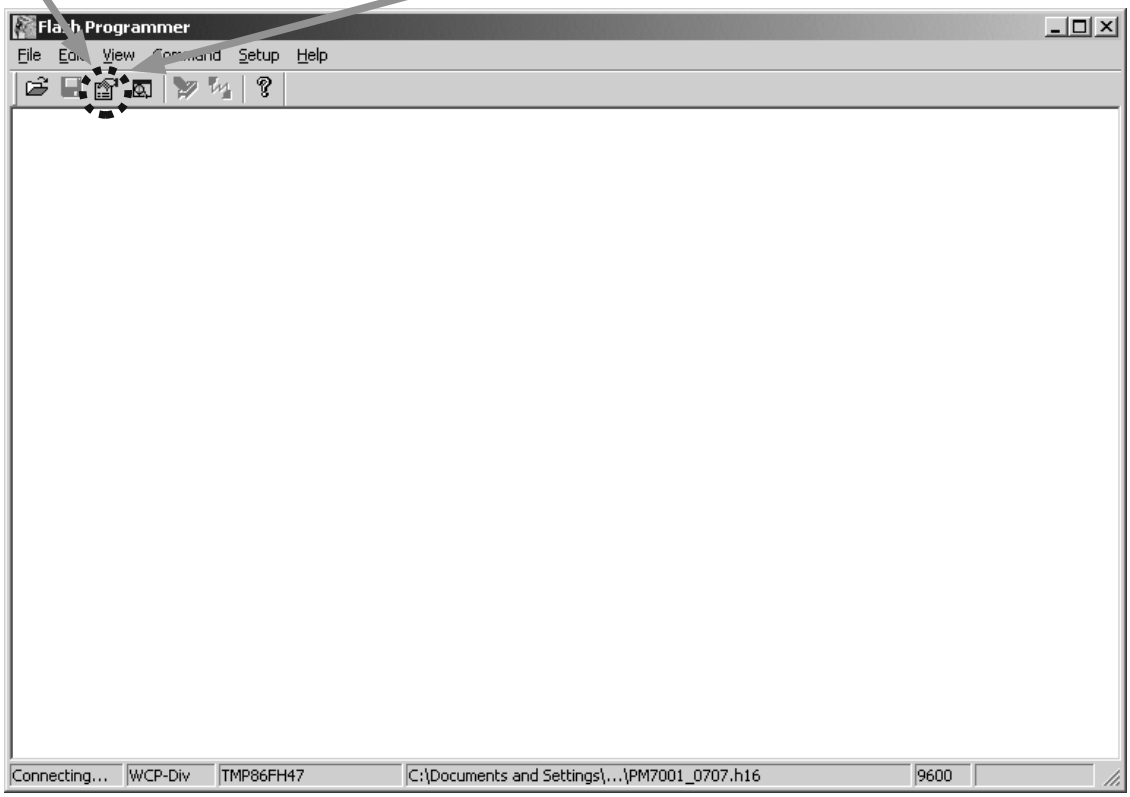
この時 TMP86FH47pass フォルダに tmp フォルダと FlashProg.ini ファイルが作成されます。

注意：これらは今設定した Windows PC 独自の設定ファイルになります。他の PC にこれらのファイルをコピーしても正しく動作しません。もし他の PC で動作させる場合は tmp フォルダと FlashProg.ini ファイルは削除して設定をやり直してください。



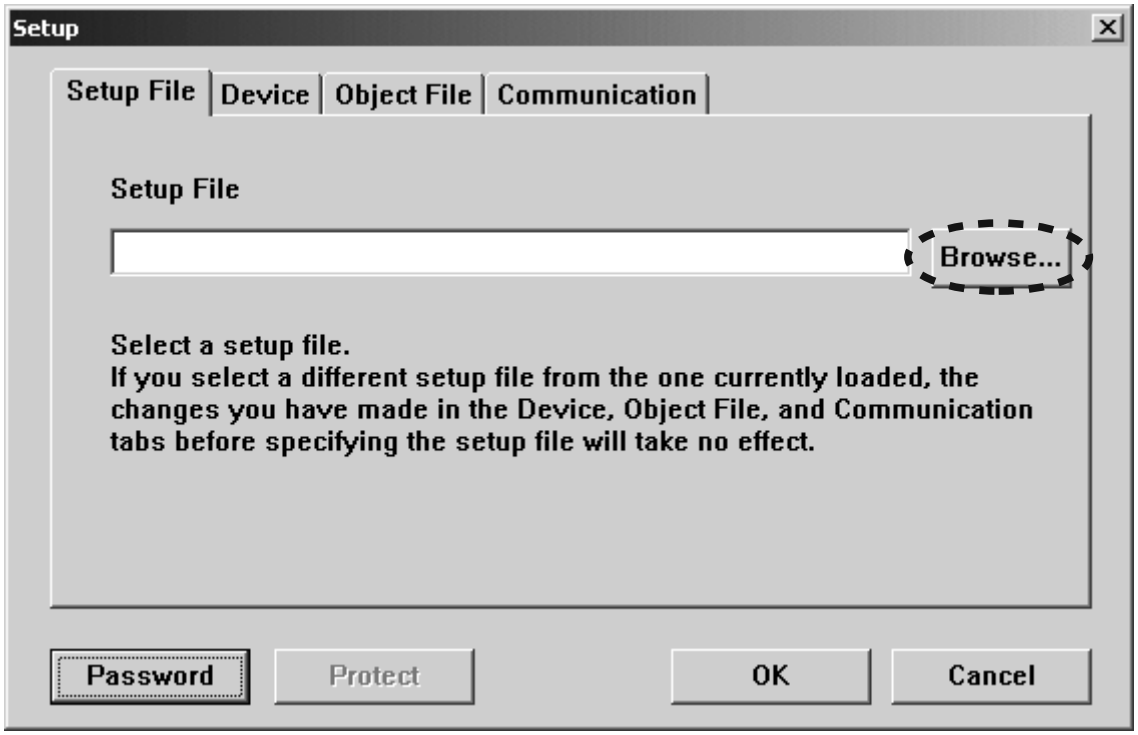
The Flash Programmer is launched.
Click **setup** icon.

setup が閉じ、Flash Programmer が立ち上がります。
setup アイコンをクリックします。



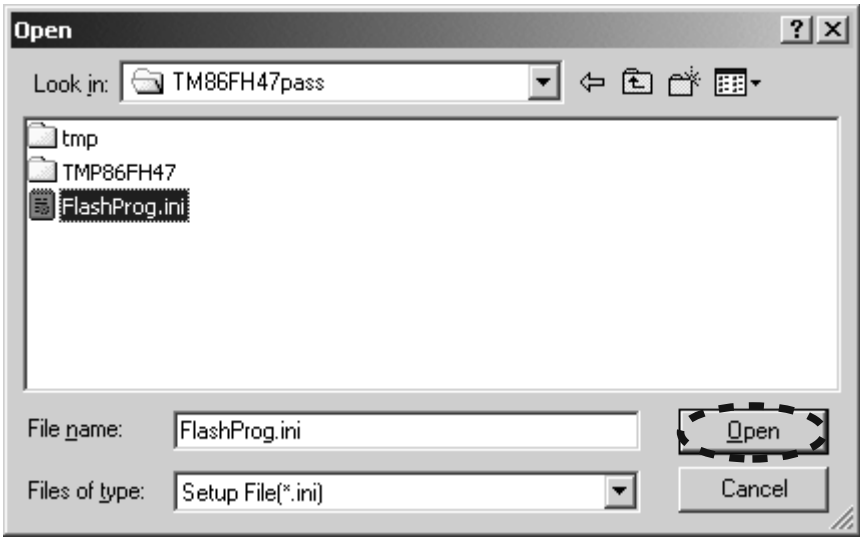
Click **Browse...**.

Browse... をクリックします。



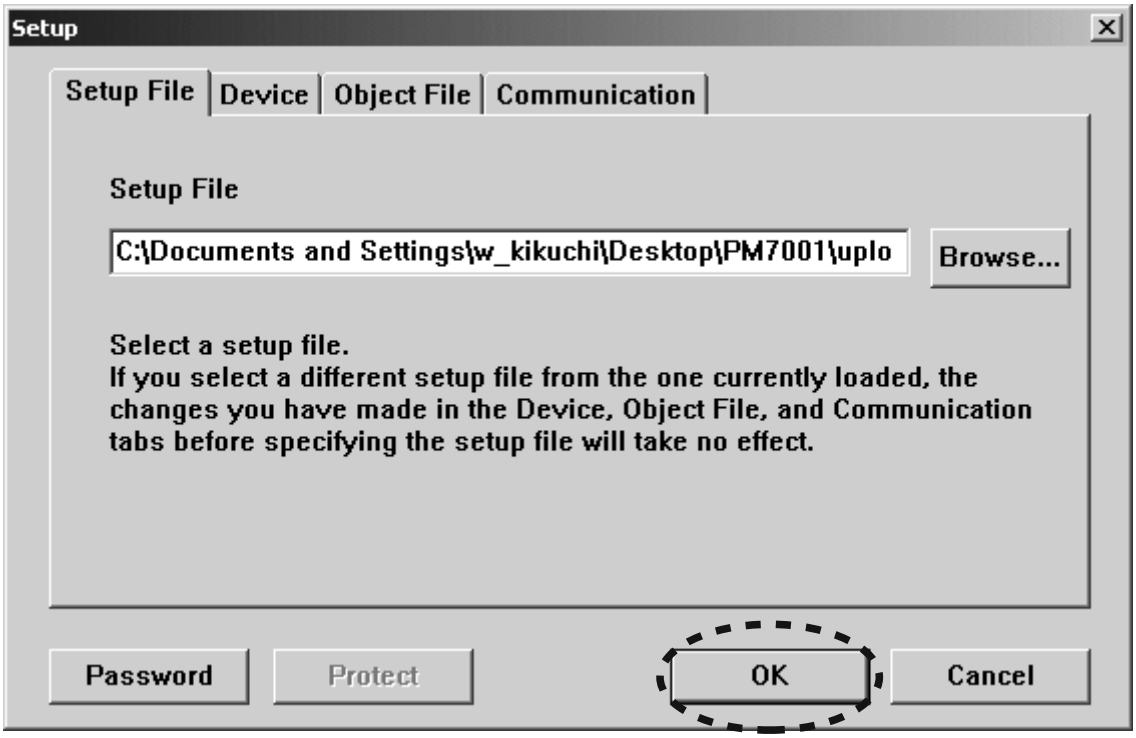
Choose **FlashProg.ini** in TM86FH47pass folder, and click **Open**.

TM86FH47pass フォルダから **FlashProg.ini** を選び、**Open** をクリックします。



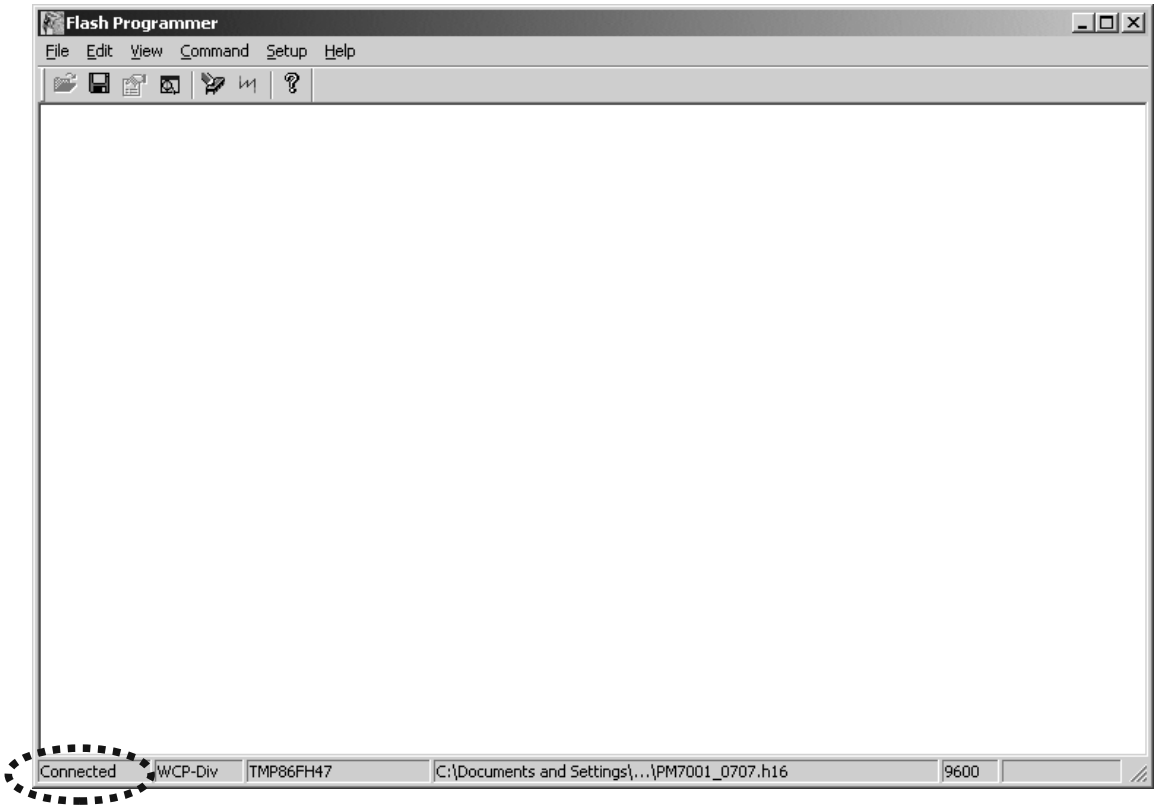
Click **OK**.

OK をクリックします。



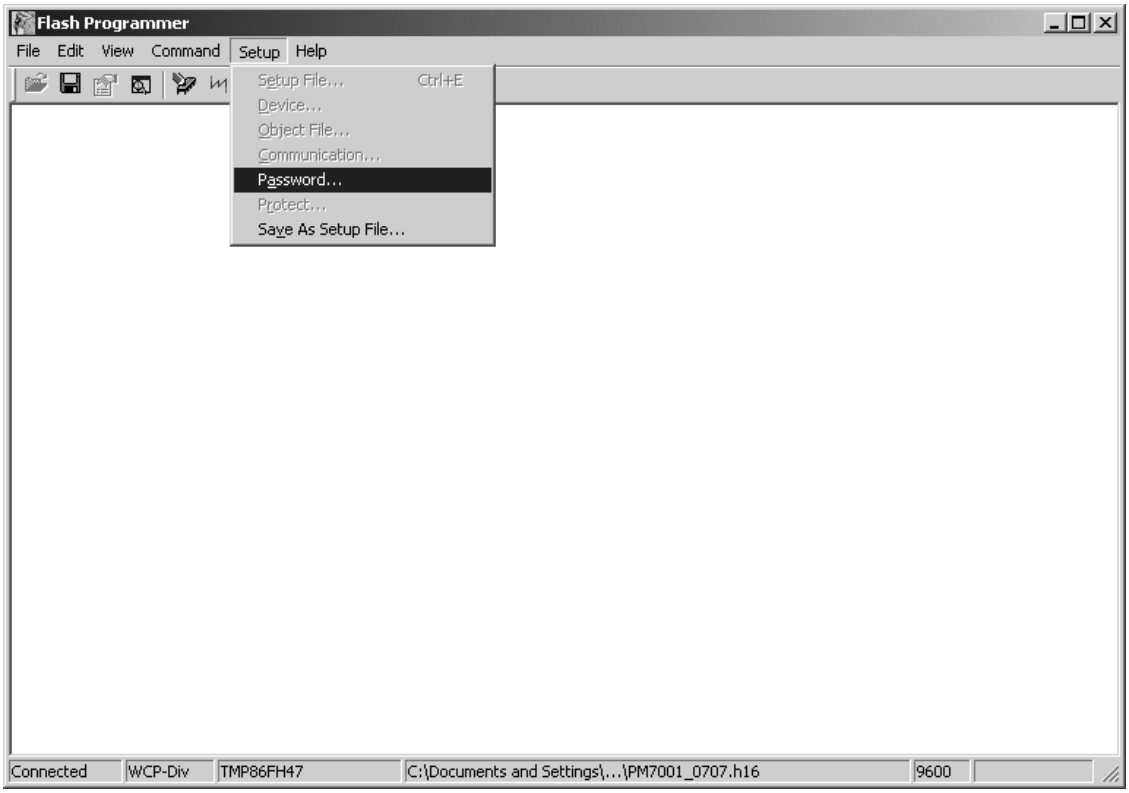
Press the **POWER ON/OFF** button, and turn on the unit.
Status indication at lower left in Flash Programming window is changed to "Connected" from "Connecting".
When it did not changed, check the connection of FPC or RS-232C cable.

本機の電源スイッチをオンにします。
Flash Programming ウィンドウの左下のステータスが Connecting から Connected に変わります。もし Connected に変わらないときは接続を確認してください。



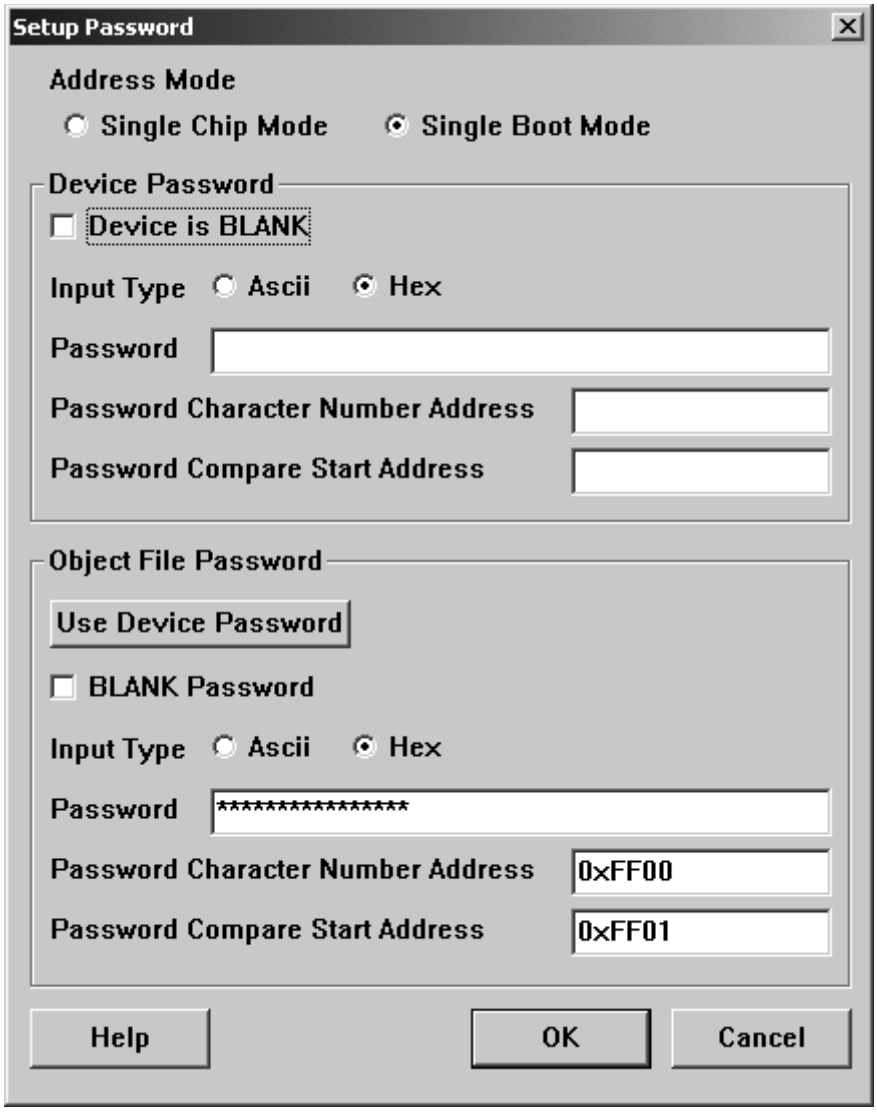
Select **Password** in **Setup**.

Setup から **Password** を選びます。



Setup Password opens.

Setup Password 画面が開きます。



- When writing in a blank microprocessor
  Refer to 16 pege
- When writing (update) in the already written-in microcomputer
  Refer to 17 pege

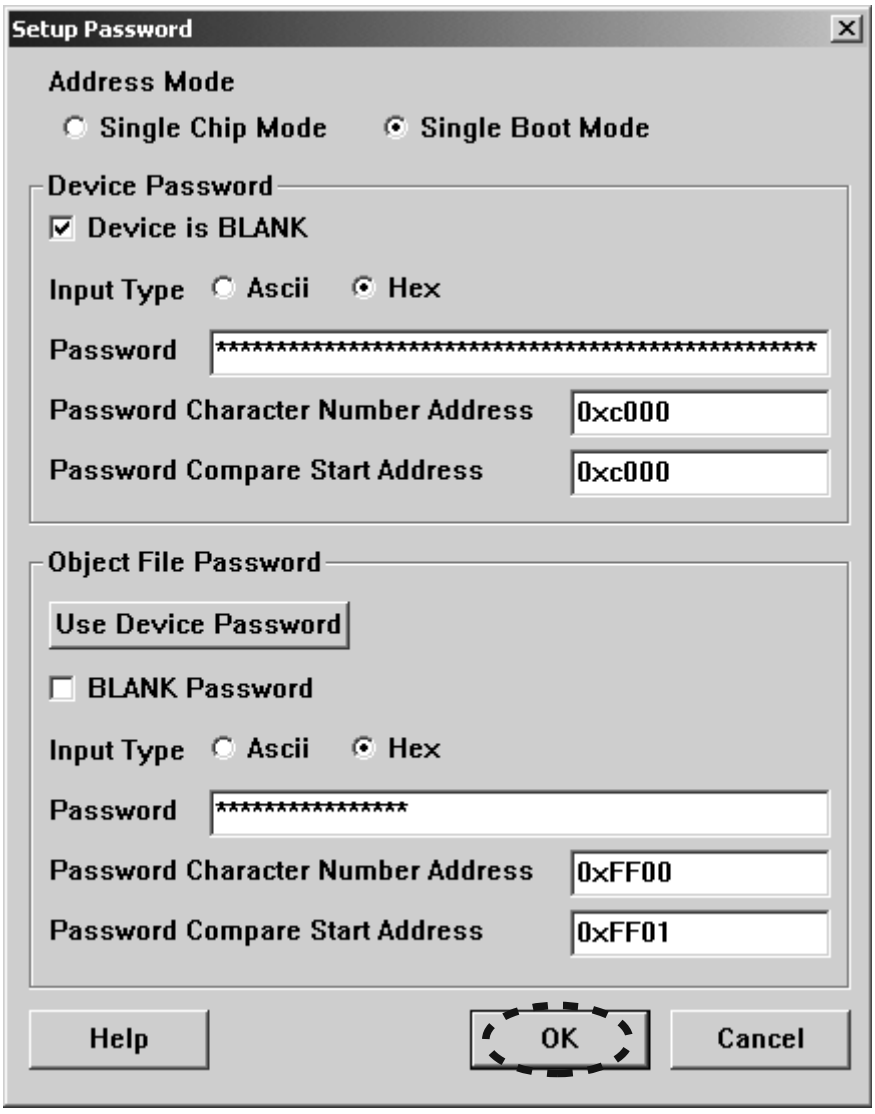
- ブランクマイコンに書き込む場合は、次のページへ
- 既に書き込まれたマイコンに書き込む場合 (アップデート) は、17 ページへ

[When writing in a blank microprocessor]

Check **Single Boot Mode** in Address Mode.
Setting in Device Password
Check **Device is BLANK**.
Check **Hex** in input type.
Password are inputted automatically, please do not change text box of "Password", "Password Character Number Address" and "Password Compare Start Address".
Setting in Object File Password
Do not check **BLANK password**.
Check **Hex** in Input Type.
Type **0102030405060708** into Password.
Type **0xFF00** into Password Character Number Address.
Type **0xFF01** into Password Compare Start Address.
Click **OK**.

[ブランクマイコンに書き込む場合]

Address Mode から **Single Boot Mode** にチェックを入れます。
Device Password 内の設定
Device is BLANK のチェックボックスにチェックを入れます。
input type から **Hex** にチェックを入れます。
Password 、Password Character Number Address 、Password Compare Start Address は自動的に入力されますので変更しないでください。
Object File Password 内の設定
BLANK Password にはチェックを入れないでください。
Input Type から **Hex** にチェックを入れてください。
Password に **0102030405060708** を入力します。
Password Character Number Address に **0xFF00** を入力します。
Password Compare Start Address に **0xFF01** を入力します。
OK をクリックします。

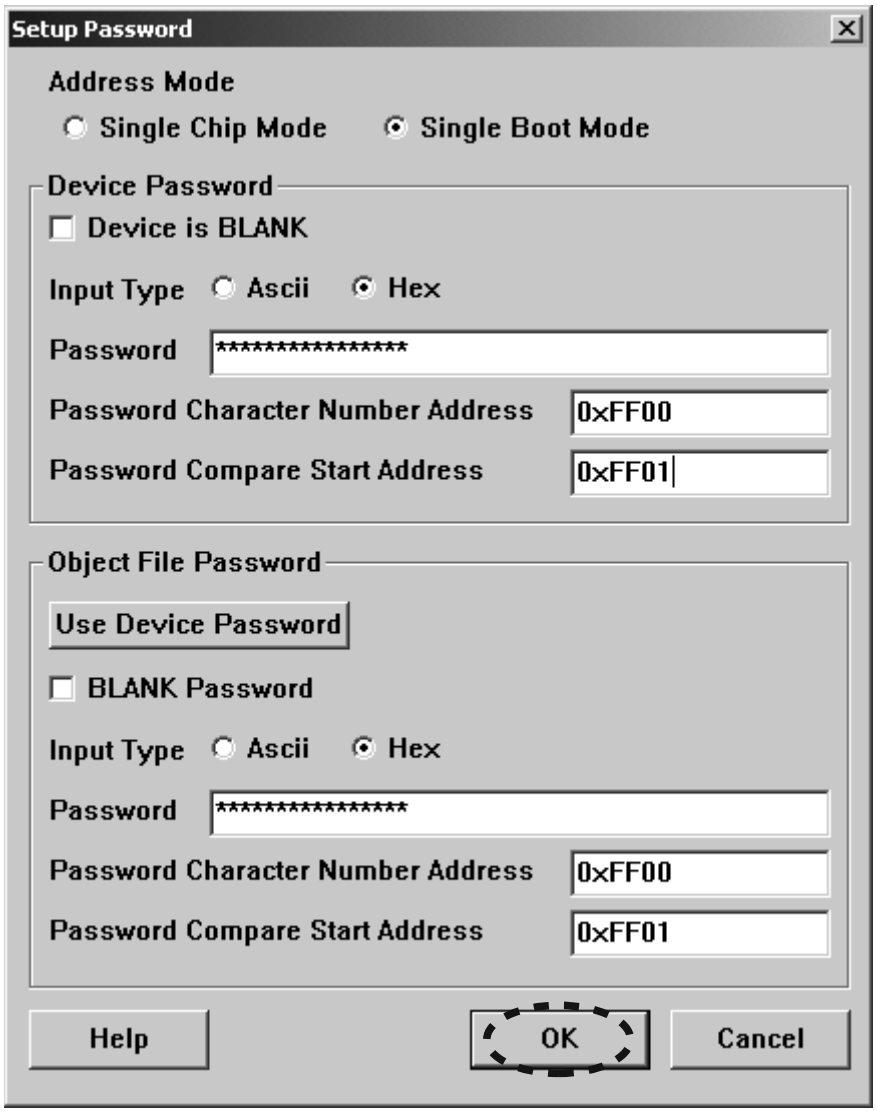


[When writing (update) in the already written-in microcomputer]

Check **Single Boot Mode** in Address Mode.
Setting in Device Password
Do not check **Device is BLANK**.
Check **Hex** in input type.
Type **0102030405060708** into Password.
Type **0xFF00** into Password Character Number Address.
Type **0xFF01** into Password Compare Start Address.
Setting in Object File Password
Do not check **BLANK password**.
Check **Hex** in Input Type.
Type **0102030405060708** into Password.
Type **0xFF00** into Password Character Number Address.
Type **0xFF01** into Password Compare Start Address.
Click **OK**.

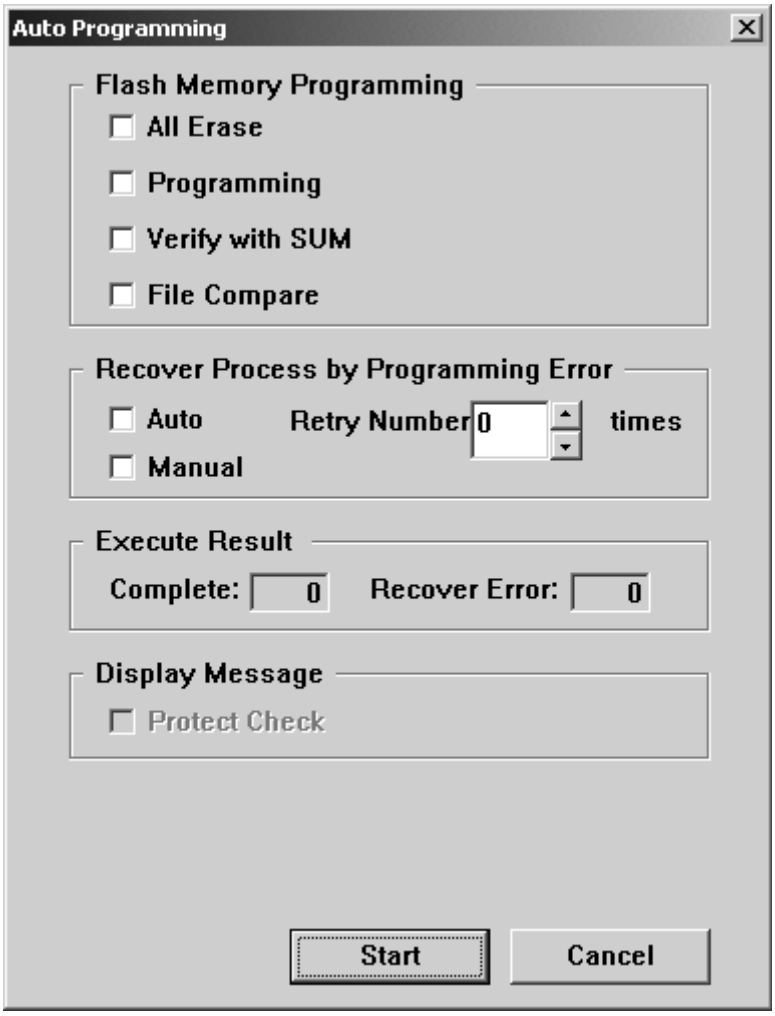
[既に書き込まれたマイコンに書き込む場合 (アップデート)]

Address Mode から **Single Boot Mode** にチェックを入れます。
Device Password 内の設定
Device is BLANK のチェックボックスにチェックを入れないでください。
input type から **Hex** にチェックを入れます。
Password に **0102030405060708** を入力します。
Password Character Number Address に **0xFF00** を入力します。
Password Compare Start Address に **0xFF01** を入力します。
Object File Password 内の設定
BLANK Password にはチェックを入れないでください。
Input Type から **Hex** にチェックを入れてください。
Password に **0102030405060708** を入力します。
Password Character Number Address に **0xFF00** を入力します。
Password Compare Start Address に **0xFF01** を入力します。
OK をクリックします。



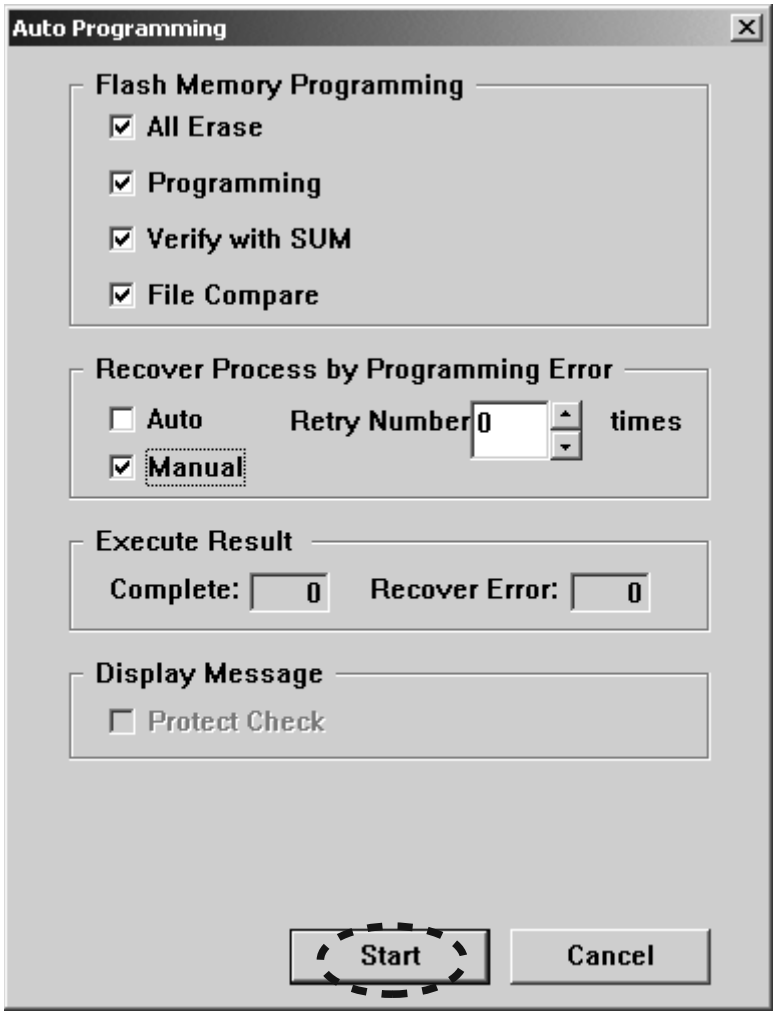
Auto Programming opens.

Auto Programming の設定画面が開きます。



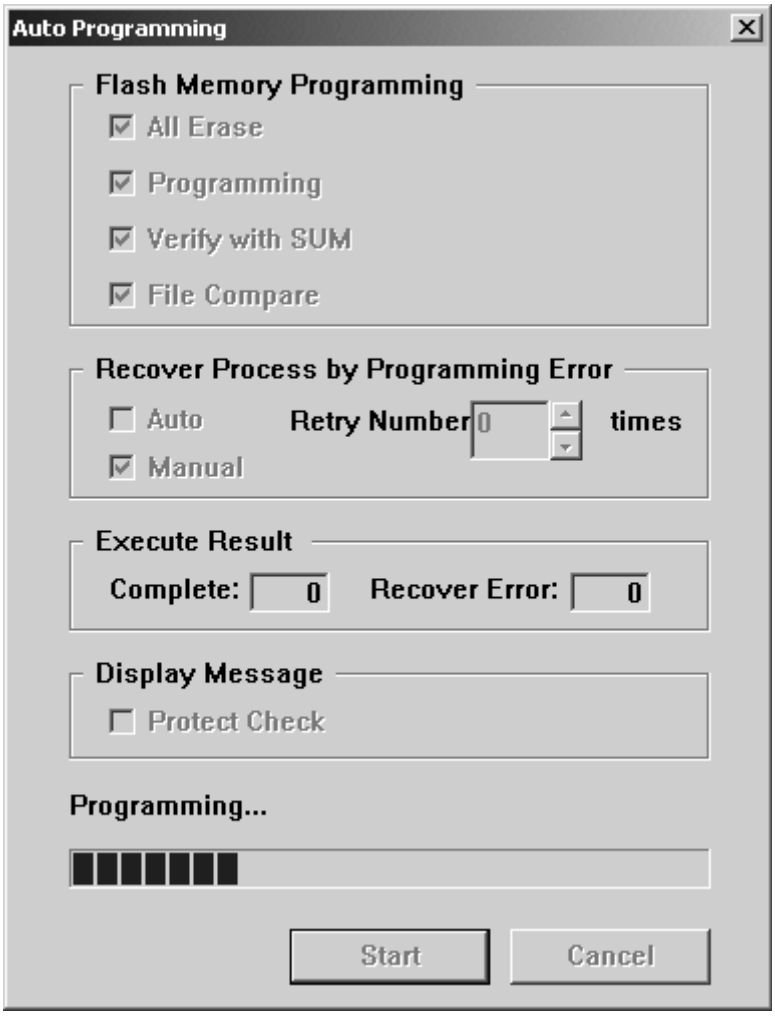
Check **All Erase**, **Programming**, **Verify with SUM** and **File Compare** in Flash Memory Programming.
Check **Manual** in Recover Process by Programming Error.
Click **Start**.

Flash Memory Programming 内の設定は **All Erase**、**Programming**、**Verify with SUM**、**File Compare** にチェックを入れます。
Recover Process by Programming Error 内の設定は **Manual** にチェックを入れます。
Start をクリックします。



Writing data is written into the microprocessor (Q201).

Microprocessor (Q201) への書き込みが行われます。

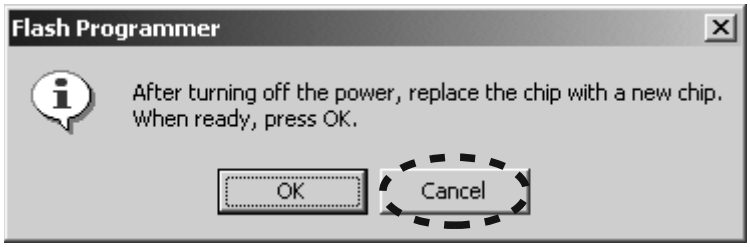


Click **Yes**, when writing is successful.

書き込みが成功すると下記のような画面が出ますので **Yes** をクリックします。

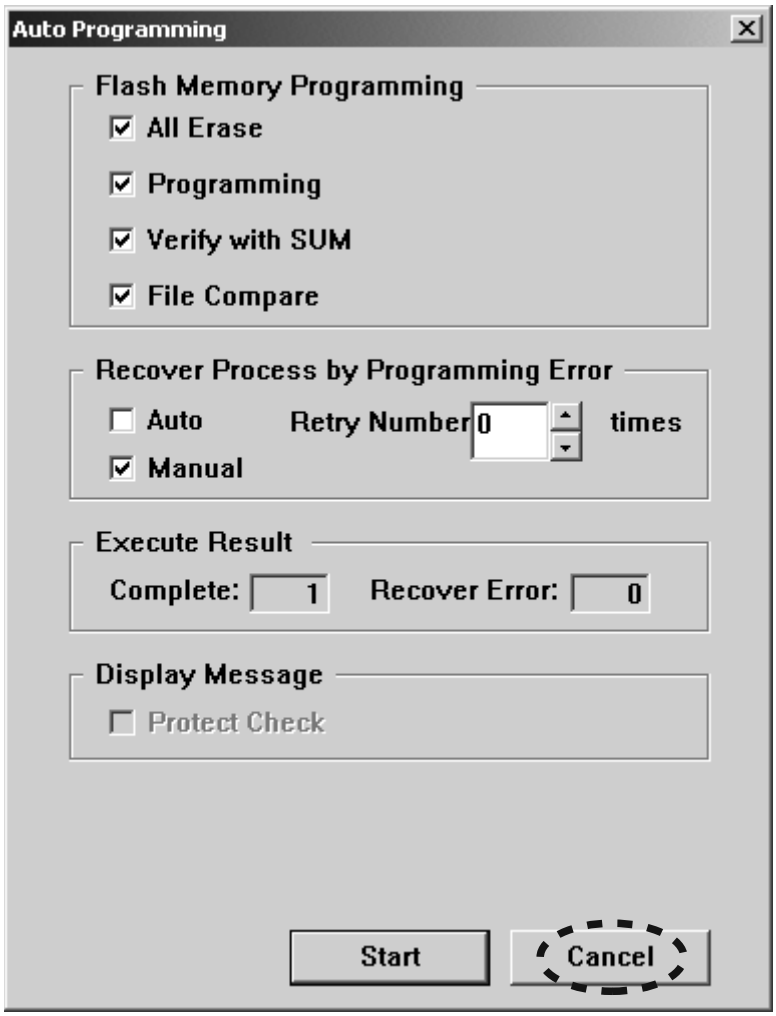
Click **Cancel**.

Cancel をクリックし終了します。



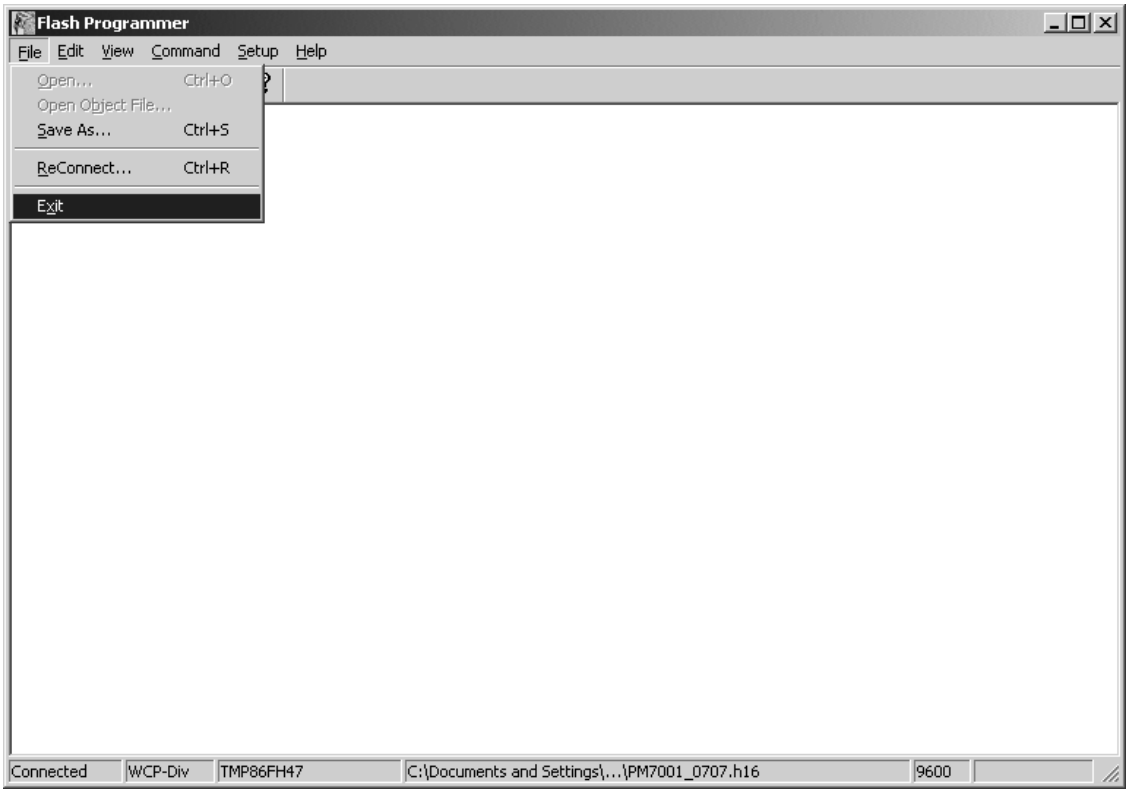
Click **Cancel**.

Cancel をクリックします。



Select the **Exit** in **File**, and finish.

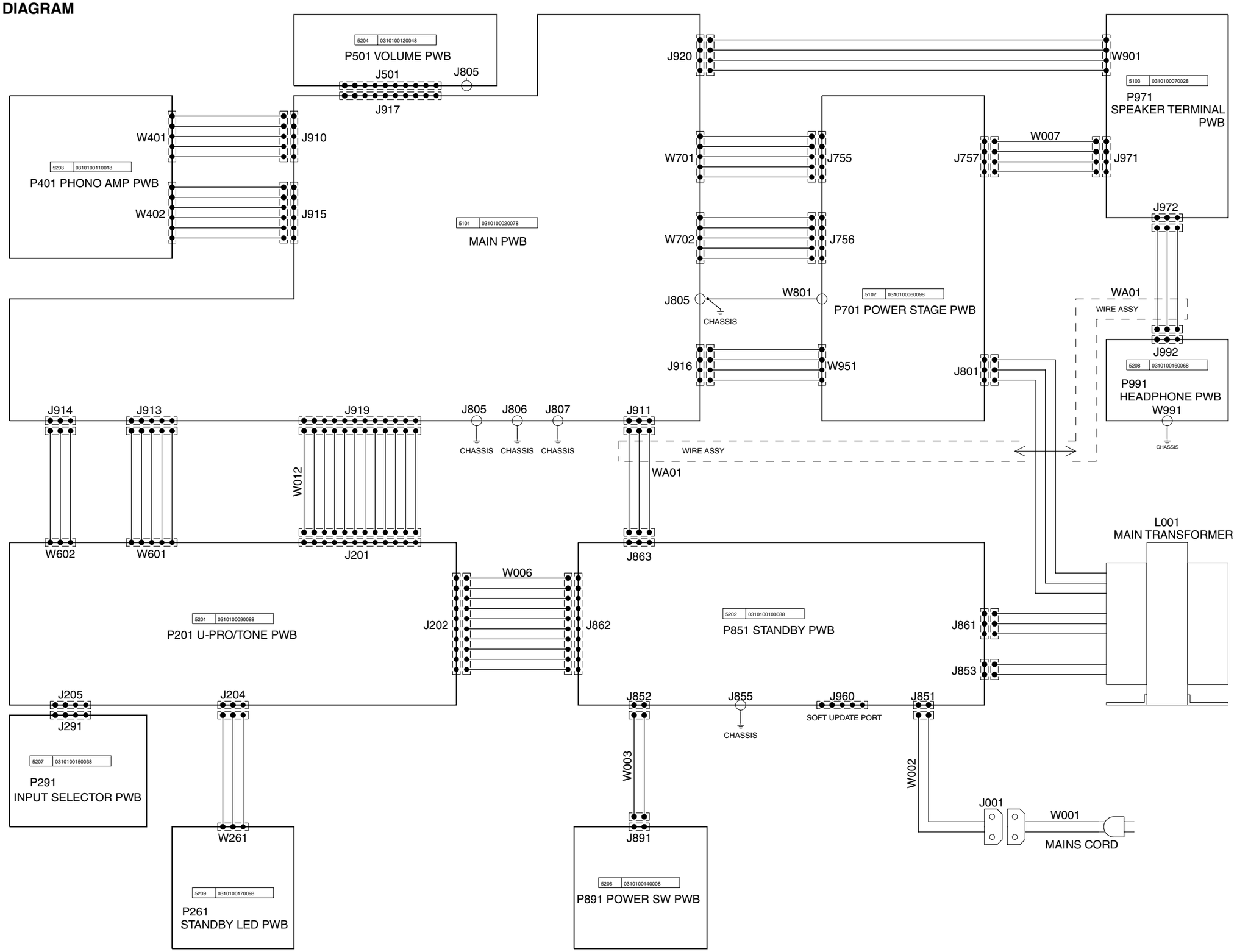
File から **Exit** を選び、終了します。



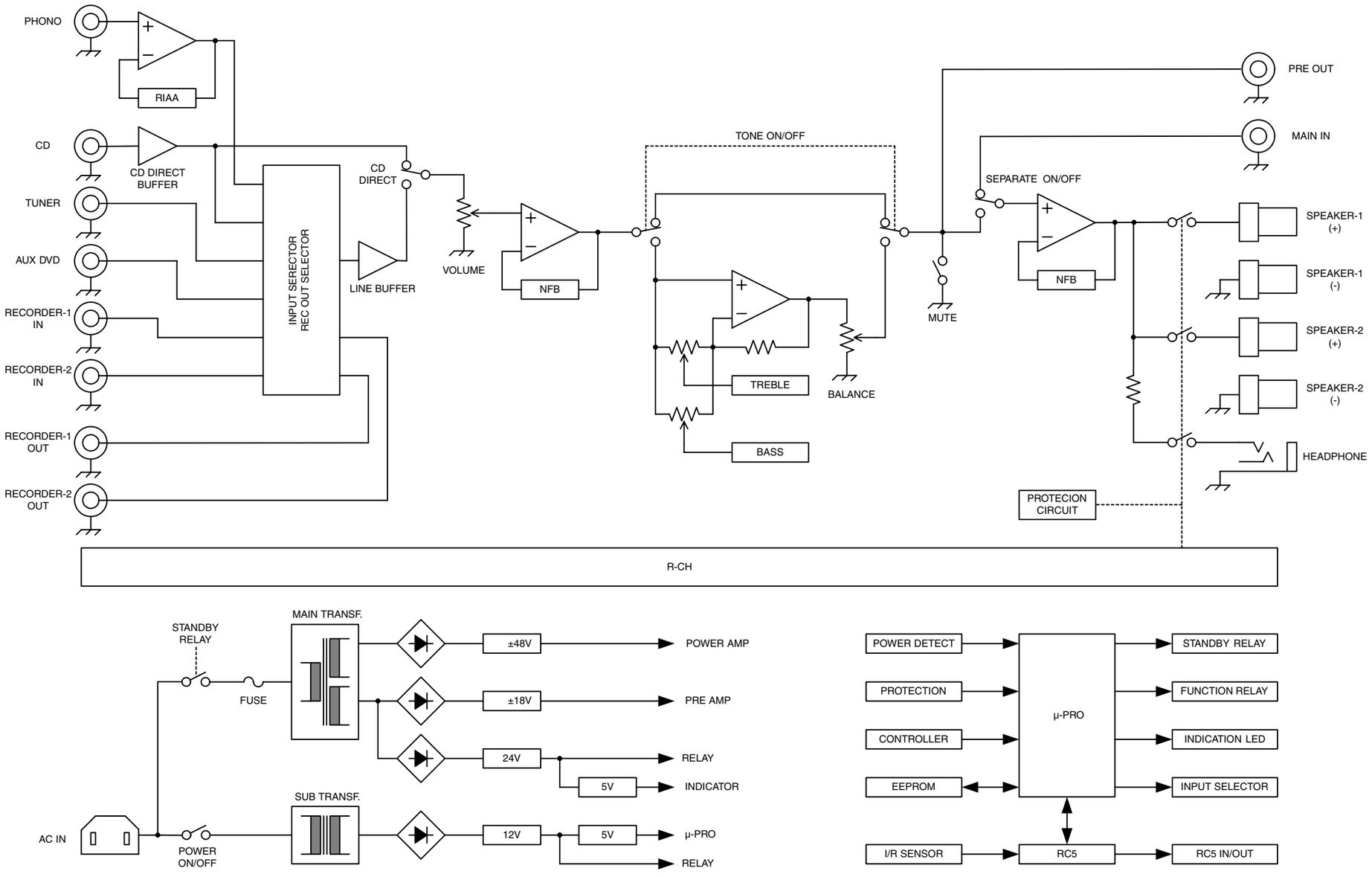
Press the **POWER ON/OFF** button, and turn off the unit.
Disconnect each cable.
Check the software version.
Refer to "**3. SERVICE MODE**" on page 4.

本機の電源スイッチを切り、ケーブルを外します。
Software の Version 確認をしてくださ
4 ページの "**3. SERVICE MODE**" で確認します。

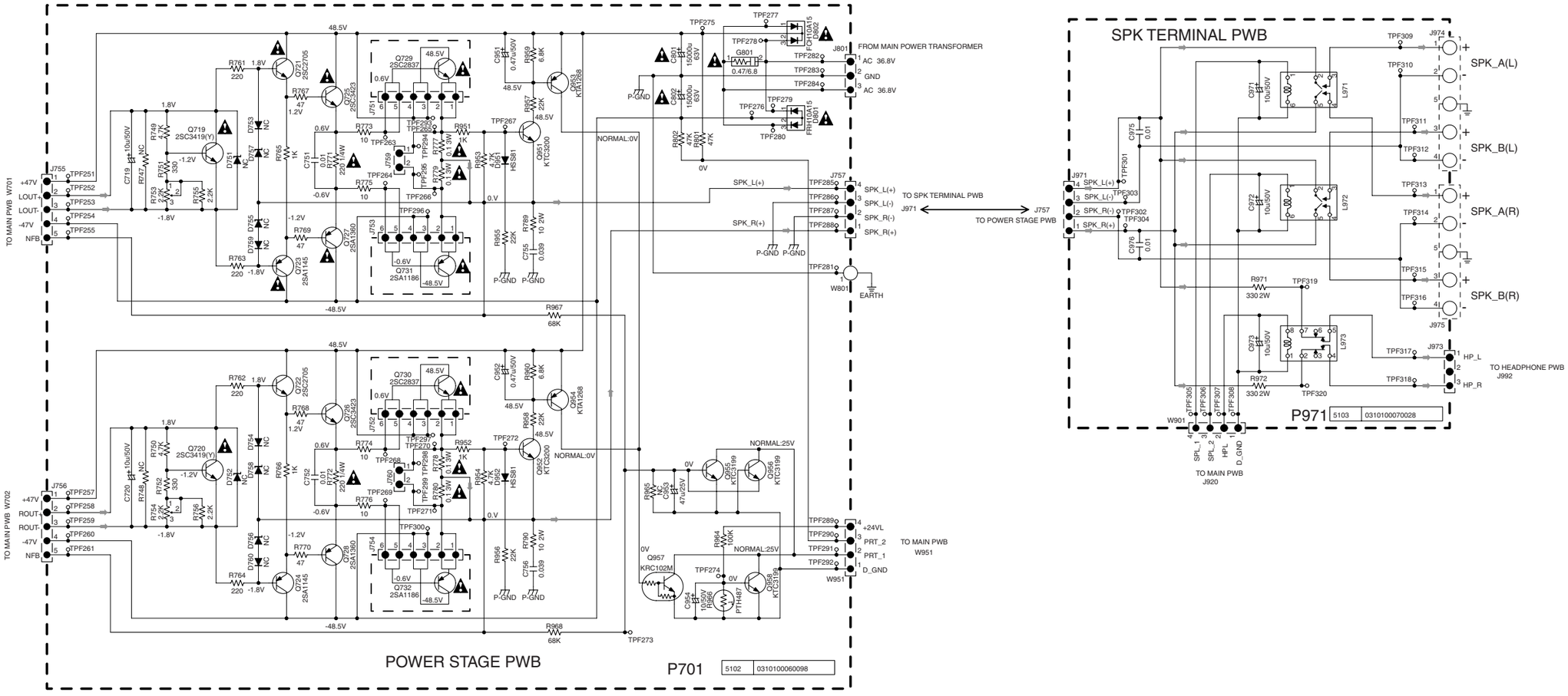
5. WIRING DIAGRAM

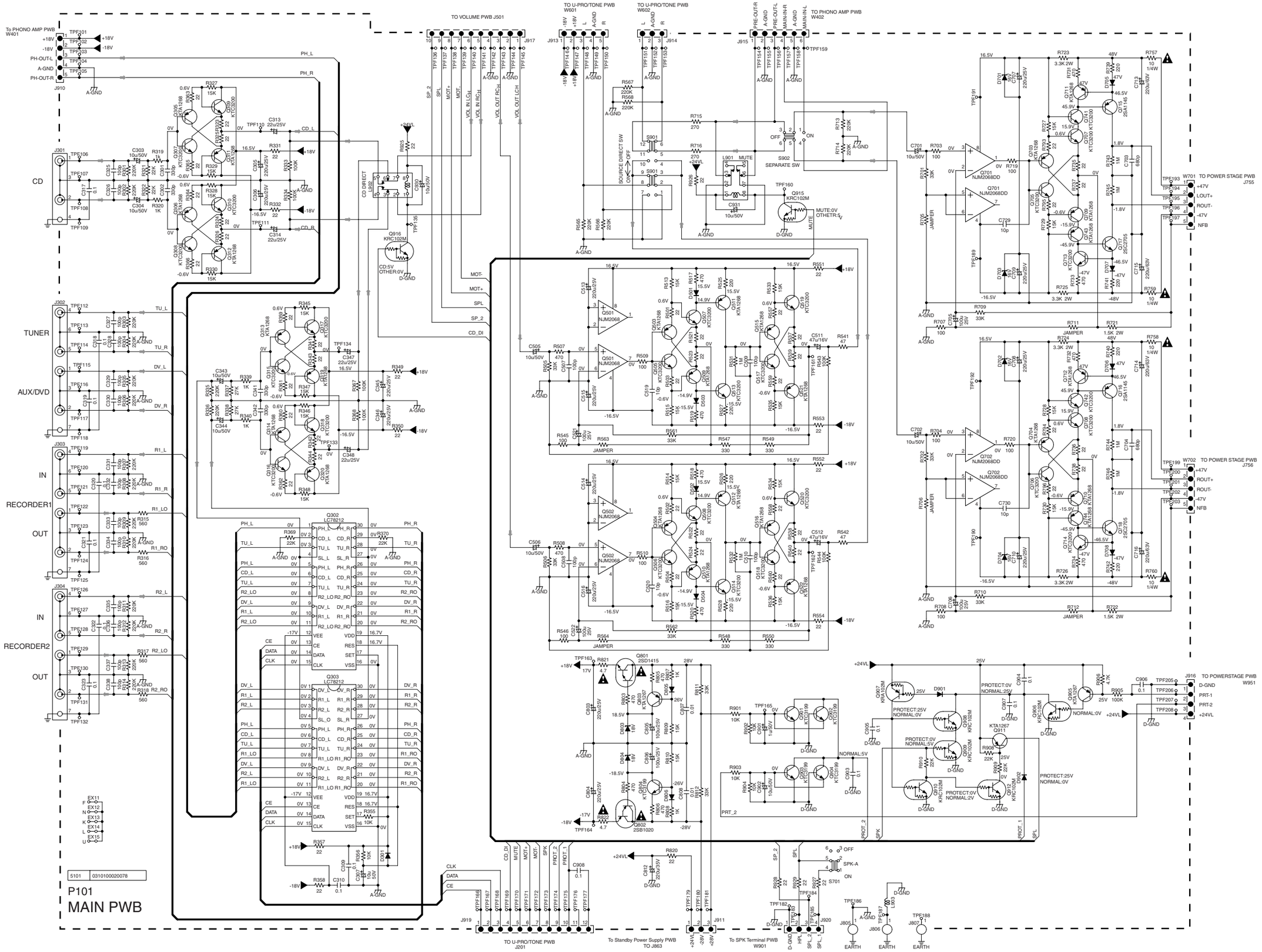


6. BLOCK DIAGRAM



7. SCHEMATIC DIAGRAM




TO VOLUME PWB J501
TO U-PRO/TONE PWB W601
TO U-PRO/TONE PWB W602
TO PHONO AMP PWB W402
To PHONO AMP PWB W401
CD
TUNER
AUX/DVD
IN RECORDER1
OUT
IN RECORDER2
OUT
PH_L
PH_R
CD_L
CD_R
TU_L
TU_R
DV_L
DV_R
R1_L
R1_R
R1_LO
R1_RO
R2_L
R2_R
R2_LO
R2_RO
SP_2
SPL
MOT+
MOT-
VOL IN LCH
VOL IN RCH
VOL OUT RCH
VOL OUT LCH
CD_DI
CD DIRECT
SOURCE DIRECT SW
S901
S902
SEPARATE SW
L901 MUTE
MUTE:0V
OTHER:5V
JAMPER
NJM2068DD
NJM2068
LC78212
TO POWER STAGE PWB J755
TO POWER STAGE PWB J756
TO POWERSTAGE PWB W951
+47V
LOUT+
ROUT-
-47V
NFB
PROTECT:0V
NORMAL:25V
PROTECT:25V
NORMAL:0V
NORMAL:5V
PROTECT:0V
NORMAL:-5V
PROTECT:0V
NORMAL:2V
D-GND
A-GND
EARTH
5101 0310100020078
P101
MAIN PWB
TO U-PRO/TONE PWB J201
To Standby Power Supply PWB TO J863
To SPK Terminal PWB W901

5209 0310100170098

STANDBY LED PWB
P261
PM7001/PM7001KI only

5207 0310100150038

INPUT SEL PWB
P291

5201 0310100090088

P201 U-PRO/TONE PWB

Q201 PIN26

S251 POSITION	RECD (V)
1 REC-2 → REC-1	1.2
2 REC-1 → REC-2	1.7
3 AUX/DVD	2.2
4 TUNER	2.8
5 OFF	4.0
6 CD	4.6
7 PHONO	5.2

REC SELECTOR
S251

REC SELECTOR

TO STANDBY PWB J862

TO MAIN PWB J919

TO MAIN PWB J913

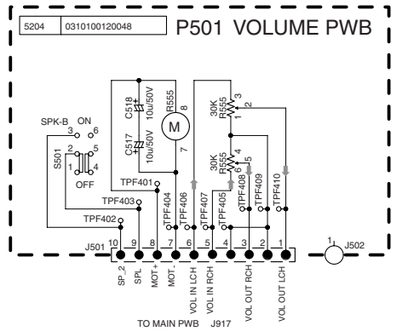
TO MAIN PWB J914

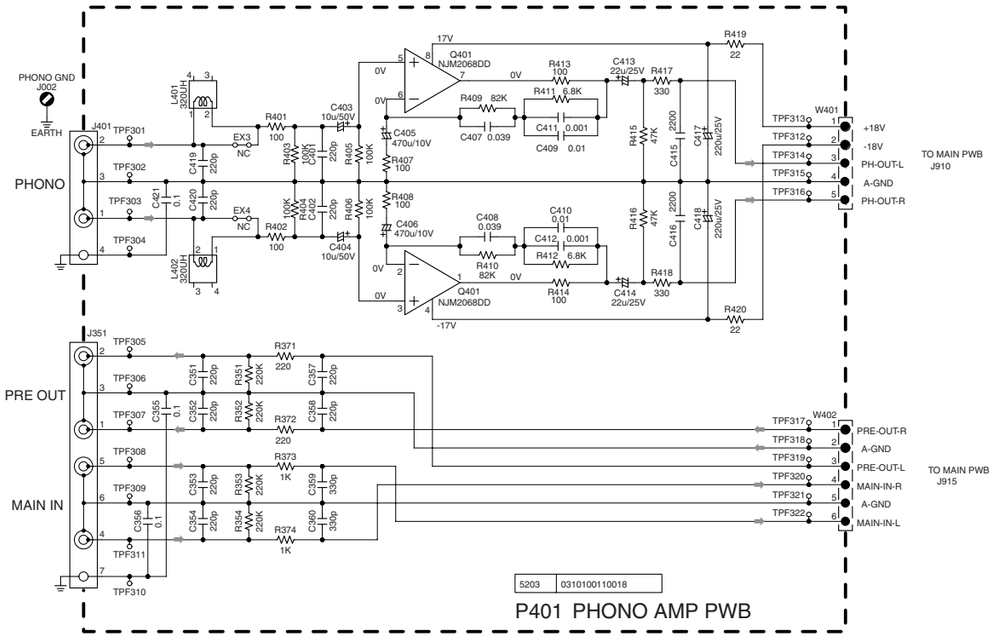
5208 0310100160068

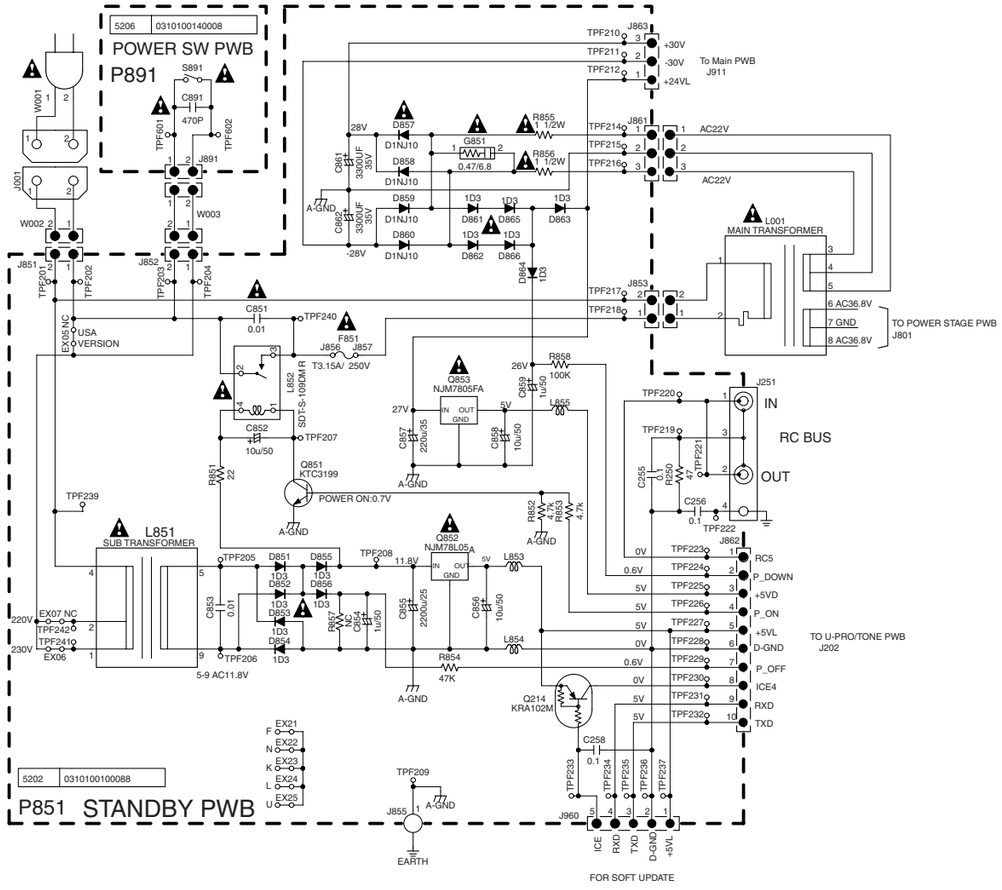
P991 HEADPHONE PWB

TO SPK TERMINAL PWB J972

HEADPHONE J991

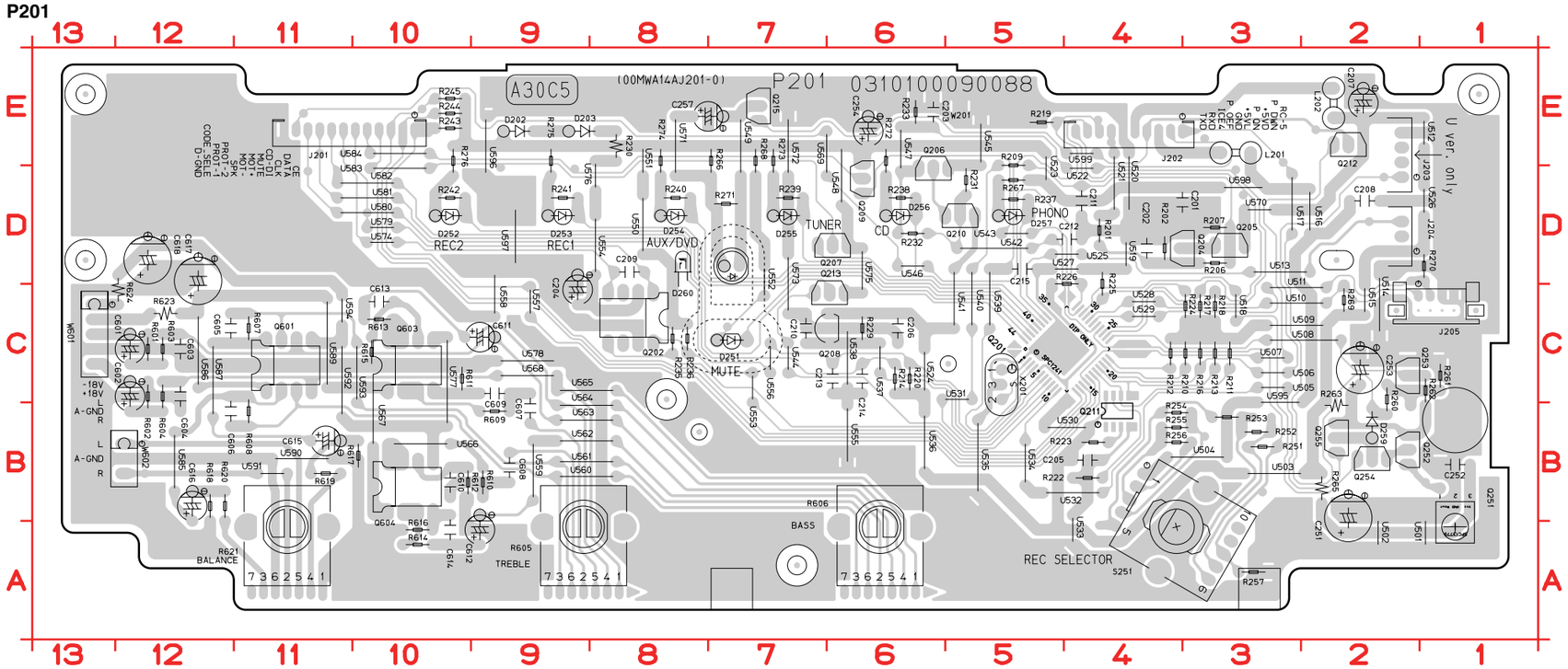

5204 0310100120048
P501 VOLUME PWB
SPK-B ON
OFF
S501
C518 10u/50V
C517 10u/50V
R555
30K R655
30K R655
TPF401
TPF402
TPF403
TPF404
TPF405
TPF406
TPF407
TPF408
TPF409
TPF410
J501
J502
SP_2
SPL
MOT+
MOT-
VOL IN LCH
VOL IN RCH
VOL OUT RCH
VOL OUT LCH
TO MAIN PWB J917


PHONO GND J002
EARTH
PHONO
J401
L401 320UH
L402 320UH
EX3 NC
EX4 NC
C419 220p
C420 220p
C421 0.1
R401 100
R402 100
R403 100K
R404 100K
C402 220p
C403 10u/50V
C404 10u/50V
R405 100K
R406 100K
C405 470u/10V
C406 470u/10V
R407 100
R408 100
Q401 NJM2068DD
17V
-17V
R409 82K
C407 0.039
R410 82K
C408 0.039
R411 6.8K
C409 0.01
C410 0.01
R412 6.8K
R413 100
R414 100
C411 0.001
C412 0.001
C413 22u/25V
C414 22u/25V
R415 47K
R416 47K
R417 330
R418 330
C415 2200
C416 2200
C417 2200/25V
C418 2200/25V
R419 22
R420 22
TPF313
TPF312
TPF314
TPF315
TPF316
W401
+18V
-18V
PH-OUT-L
A-GND
PH-OUT-R
TO MAIN PWB J910
PRE OUT
MAIN IN
J351
TPF305
TPF306
TPF307
TPF308
TPF309
TPF310
TPF311
C351 220p
C352 220p
C353 220p
C354 220p
C355 0.1
C356 0.1
C357 220p
C358 220p
C359 330p
C360 330p
R351 220K
R352 220K
R353 220K
R354 220K
R371 220
R372 220
R373 1K
R374 1K
TPF317
TPF318
TPF319
TPF320
TPF321
TPF322
W402
PRE-OUT-R
A-GND
PRE-OUT-L
MAIN-IN-R
A-GND
MAIN-IN-L
TO MAIN PWB J915
5203 0310100110018
P401 PHONO AMP PWB


5206 0310100140008
POWER SW PWB
P891
W001
J001
W002
W003
S891
C891 470P
TPF601
TPF602
J891
J851
J852
TPF201
TPF202
TPF203
TPF204
EX05 NC
USA VERSION
C851 0.01
TPF240
F851 T3.15A/ 250V
J856
J857
L852 SDT-S-109DM R
C852 10u/50
TPF207
Q851 KTC3199
POWER ON:0.7V
R851 22
TPF239
L851 SUB TRANSFORMER
220V
230V
EX07 NC
TPF242
TPF241
EX06
TPF205
TPF206
5-9 AC11.8V
D851
D852
D853
D854
D855
D856
1D3
C853 0.01
R857 NC
C854 1u/50
TPF208
11.8V
Q852 NJM78L05A
C855 2200u/25
C856 10u/50
L853
L854
R854 47K
Q853 NJM7805FA
C859 1u/50
C857 220u/35
C858 10u/50
L855
R858 100K
26V
27V
5V
A-GND
R852 4.7K
R853 4.7K
Q214 KRA102M
C258 0.1
TPF233
TPF234
TPF235
TPF236
TPF237
J960
ICE
RXD
TXD
D-GND
+5VL
FOR SOFT UPDATE
EX21 F
EX22 N
EX23 K
EX24 L
EX25 U
TPF209
J855
EARTH
5202 0310100100088
P851 STANDBY PWB
TPF210
TPF211
TPF212
J863
+30V
-30V
+24VL
To Main PWB J911
TPF214
TPF215
TPF216
J861
AC22V
AC22V
C861 3300UF 35V
C862 3300UF 35V
28V
-28V
D857
D858
D859
D860
D1NJ10
G851 0.47/6.8
R855 1/2W
R856 1/2W
D861
D862
D863
D864
D865
D866
L001 MAIN TRANSFORMER
TPF217
TPF218
J853
6 AC36.8V
7 GND
8 AC36.8V
TO POWER STAGE PWB J801
TPF220
TPF219
TPF221
J251
IN
RC BUS
OUT
C255 0.1
R250 47
C256 0.1
TPF222
J862
TPF223
TPF224
TPF225
TPF226
TPF227
TPF228
TPF229
TPF230
TPF231
TPF232
RC5
P_DOWN
+5VD
P_ON
+5VL
D-GND
P_OFF
ICE4
RXD
TXD
TO U-PRO/TONE PWB J202

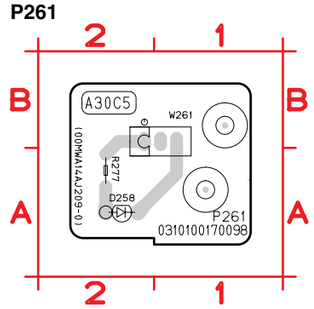
8. PARTS LOCATION

P201



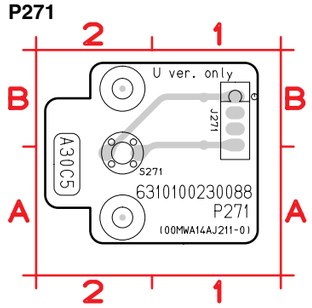
C201 D4
C202 D4
C203 E6
C204 C9
C205 B4
C206 C6
C207 E2
C208 D2
C209 D8
C210 C7
C211 D4
C212 D4
C213 C6
C214 C6
C215 D5
C251 A2
C252 B1
C253 C2
C254 E6
C257 E8
C601 C12
C602 B12
C603 C12
C604 B12
C605 C12
C606 B12
C607 B9
C608 B9
C609 C9
C610 B10
C611 C10
C612 A9
C613 C10
C614 A10
C615 B11
C616 B12
C617 C12
C618 D12
D202 E9
D203 E9
D251 C7
D252 D10
D253 D9
D254 D8
D255 D7
D256 D6
D257 D5
D259 B2
D260 D7
J201 E10
J202 E4
J203 D2
J204 D2
J205 C1
L201 E3
L202 E2
Q201 C4
Q202 C8
Q204 D4
Q205 D3
Q206 D6
Q207 D6
Q208 C6
Q209 D6
Q210 D5
Q211 B4
Q212 E2
Q213 C6
Q215 E7
Q251 A1
Q252 B2
Q253 C2
Q254 B2
Q255 B2
Q601 C11
Q603 C10
Q604 B10
R201 D4
R202 D4
R206 D3
R207 D3
R209 E5
R210 C3
R211 C3
R212 C4
R213 C3
R214 C6
R216 C3
R217 C3
R218 C3
R219 E5
R220 C6
R222 B4
R223 B4
R224 C3
R225 D4
R226 D4
R229 C6
R230 E8
R231 D5
R232 D6
R233 E6
R235 C8
R236 C8
R237 D5
R238 D6
R239 D7
R240 D8
R241 D9
R242 D10
R243 E10
R244 E10
R245 E10
R251 B3
R252 B3
R253 B3
R254 B3
R255 B3
R256 B3
R257 A3
R260 B2
R261 C1
R262 B1
R263 B2
R265 B2
R266 E7
R267 D5
R268 E7
R269 C2
R270 D1
R271 D7
R272 E6
R273 E7
R274 E8
R275 E9
R276 E10
R601 C12
R602 B12
R604 B12
R605 A9
R606 A6
R607 C11
R608 B11
R609 B9
R610 B9
R611 C10
R612 B10
R613 C10
R614 A10
R615 C10
R616 A10
R617 B10
R618 B12
R619 B11
R620 B12
R621 A11
R623 C12
R624 C12
S251 A4
U501 A1
U502 A2
U503 B2
U504 B3
U505 C3
U506 C3
U507 C3
U508 C2
U509 C2
U510 C2
U511 C2
U512 E1
U513 D2
U514 C2
U515 C2
U516 D2
U517 D3
U518 C3
U519 D4
U520 D4
U521 D4
U522 D4
U523 D5
U524 C6
U526 D1
U527 D4
U528 C4
U529 C4
U530 B4
U531 C5
U532 B4
U533 A4
U534 B5
U535 B5
U536 B6
U537 C6
U538 C6
U539 C5
U540 C5
U541 C5
U542 D5
U543 D5
U544 C7
U545 E5
U546 D6
U547 D6
U548 D6
U549 D7
U550 D8
U551 D8
U552 C7
U553 C7
U554 D8
U555 B6
U556 C7
U557 C9
U558 C9
U559 B9
U560 B8
U561 B8
U562 B8
U563 B8
U564 B8
U565 C8
U566 B10
U567 B10
U568 C9
U569 D7
U570 D3
U572 D7
U573 C7
U574 D10
U575 C6
U576 D8
U577 B10
U578 C9
U579 D10
U580 D10
U581 D10
U582 D10
U583 D10
U584 E10
U585 B12
U586 C12
U587 B12
U589 C11
U590 B11
U591 B11
U592 B11
U593 C10
U594 C11
U595 C2
U596 D9
U597 D9
U598 D3
U599 E4
W201 E5
W601 C13
W602 B12
X201 C5

P261



D258 A2
R277 A2
W261 B2

P271

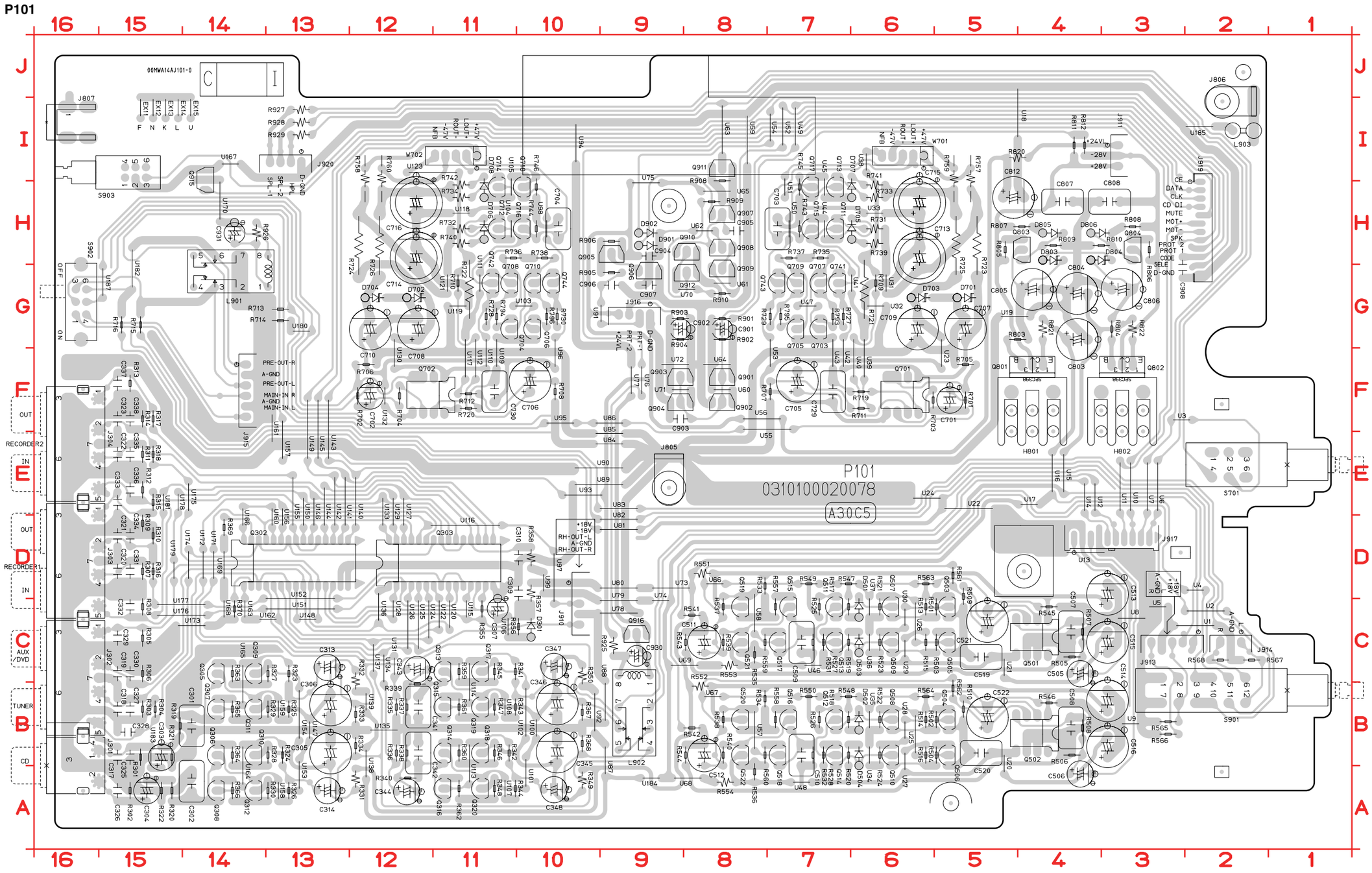


J271 B1
S271 A2

鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

P101



鉛フリー半田

半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

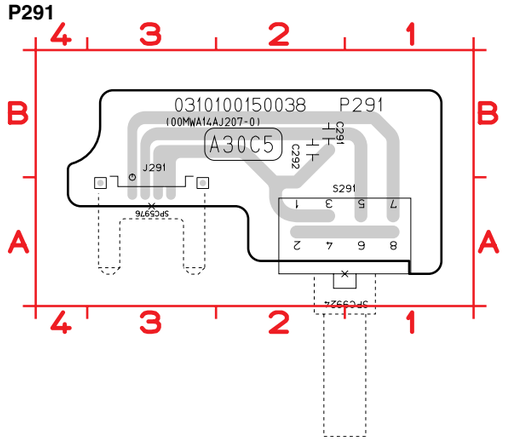
Lead-free Solder

When soldering, use the Lead-free Solder (Sn-Ag-Cu).

P101

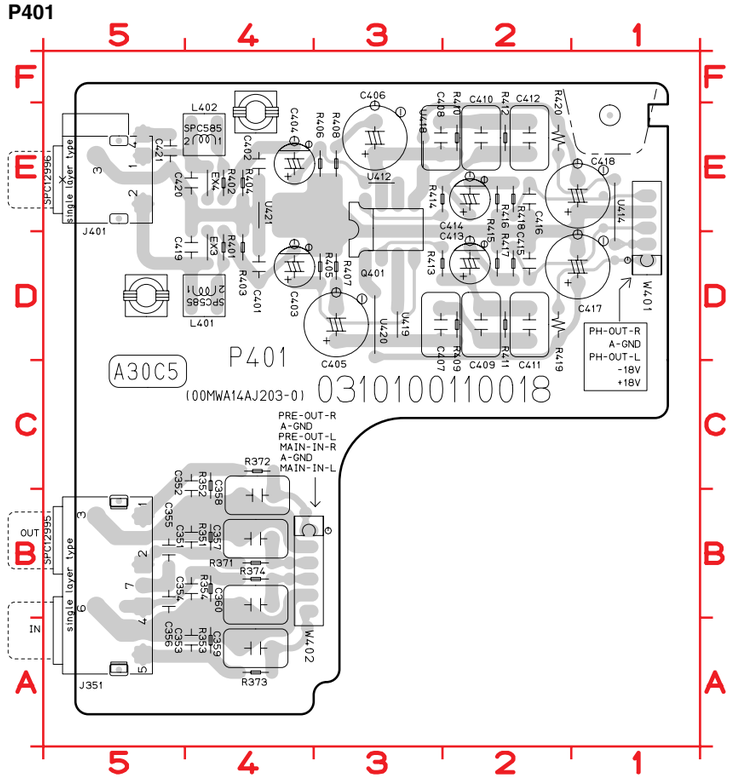
C301	B14	D803	H4	Q907	H8	R533	D8	R904	G8	U178	E15
C302	A14	D804	H4	Q908	H8	R534	B8	R905	G9	U179	D15
C303	A15	D805	H4	Q909	G8	R535	C8	R906	H9	U18	I5
C304	A15	D806	H4	Q910	H8	R536	A8	R908	I8	U180	G13
C305	B13	D901	H9	Q911	I8	R537	C8	R909	H8	U181	E15
C306	B13	D902	H9	Q912	G8	R538	B8	R910	G8	U182	G15
C307	C11	EX11	I15	Q915	I14	R539	C8	R925	C9	U183	A15
C309	C10	EX12	I15	Q916	C9	R540	B8	R926	H14	U184	A9
C310	D10	EX13	I15	R301	A15	R541	C8	R927	I13	U185	I2
C313	C13	EX14	I15	R302	A15	R542	B8	R928	I13	U187	G15
C314	A13	EX15	I14	R303	B15	R543	C8	R929	I13	U19	G4
C317	A15	J301	B16	R304	B15	R544	B8	S701	E1	U2	C2
C318	B15	J302	C16	R305	C15	R545	C4	S901	B1	U20	A5
C319	B15	J303	D16	R306	B15	R546	B4	S902	G16	U21	C5
C320	D15	J304	E16	R307	D15	R547	D6	S903	I16	U22	E5
C321	D15	J805	E9	R308	C15	R548	B6	U1	C2	U23	F5
C322	E15	J806	I2	R309	D15	R549	D7	U10	E3	U24	E5
C323	F15	J807	I16	R310	D15	R550	B7	U100	B10	U25	B6
C325	A15	J910	D10	R311	E15	R551	D8	U101	A10	U26	C6
C326	A15	J911	I3	R312	E15	R552	B8	U102	B10	U27	A6
C327	B15	J913	C2	R313	F15	R553	C8	U103	G10	U28	B6
C328	B15	J914	C2	R314	F15	R554	A8	U104	H11	U29	C6
C329	C15	J915	F14	R315	E15	R557	C7	U105	H11	U3	F2
C330	B15	J916	G9	R316	D15	R558	B7	U106	C11	U30	C6
C331	D15	J917	D3	R317	F15	R559	C8	U107	A11	U31	G6
C332	C15	J919	H2	R318	E15	R560	B8	U108	B11	U32	G6
C333	E15	J920	I13	R319	B15	R561	D5	U109	F11	U33	H6
C334	D15	L901	G13	R320	A15	R562	B5	U11	E3	U34	B6
C335	E15	L902	C9	R321	A15	R563	D5	U110	F11	U35	B6
C336	E15	L903	I2	R322	A15	R564	B5	U111	G11	U36	C6
C337	F15	Q302	D14	R323	B13	R565	B3	U112	F11	U37	C6
C338	F15	Q303	D12	R324	B13	R566	B3	U113	A11	U38	I6
C341	B12	Q305	C14	R325	B13	R567	C2	U114	B11	U39	F6
C342	B12	Q306	B14	R326	A13	R568	C2	U115	C11	U4	D2
C343	C12	Q307	B14	R327	B13	R701	F5	U116	D11	U40	F6
C344	A12	Q308	A14	R328	B13	R702	F12	U117	F11	U41	G6
C345	B10	Q309	C14	R329	B13	R703	F6	U118	H11	U42	F7
C346	B10	Q310	B14	R330	A13	R704	F12	U119	G11	U43	F7
C347	C10	Q311	B14	R331	A12	R705	F5	U12	E4	U44	H7
C348	A10	Q312	A14	R332	B12	R706	F12	U120	C11	U45	H7
C505	C4	Q313	C11	R333	B12	R707	F7	U121	G11	U46	C7
C506	A4	Q314	B11	R334	B12	R708	F10	U122	C11	U47	G7
C507	C4	Q315	B11	R335	B12	R709	G6	U123	I11	U48	A7
C508	B4	Q316	A11	R336	B12	R710	G11	U124	C12	U49	I7
C509	C7	Q317	C11	R337	B12	R711	F6	U125	C12	U5	C3
C510	B7	Q318	B11	R338	B12	R712	F11	U126	C12	U50	H7
C511	C8	Q319	B11	R339	B12	R713	G13	U127	D12	U51	H7
C512	B8	Q320	A11	R340	A12	R714	G13	U128	C12	U52	I7
C513	C3	Q501	C4	R341	C11	R715	G15	U129	D12	U53	F7
C514	B3	Q502	B4	R342	B11	R716	G15	U13	D3	U54	I7
C515	C3	Q503	C5	R343	B11	R719	F6	U130	F12	U55	F7
C516	B3	Q504	B5	R344	A11	R720	F11	U131	C12	U56	F7
C519	C5	Q505	C5	R345	C11	R721	G6	U132	F12	U57	B8
C520	B5	Q506	B5	R346	B11	R722	G11	U133	D12	U58	C8
C521	C5	Q507	C6	R347	B11	R723	G5	U134	B12	U59	I8
C522	B5	Q508	B6	R348	A11	R724	G12	U135	B12	U6	E3
C701	F5	Q509	C6	R349	A10	R725	G5	U136	C12	U60	F8
C702	F12	Q510	B6	R350	B10	R726	G12	U137	C12	U61	G8
C703	H7	Q511	C7	R355	C11	R727	G7	U138	A12	U62	H8
C704	H10	Q512	B7	R356	C10	R728	G11	U139	B12	U63	I8
C705	F7	Q513	C7	R357	C10	R729	G7	U14	E4	U64	F8
C706	F10	Q514	B7	R358	D10	R730	G10	U140	D12	U65	H8
C707	G5	Q515	C7	R359	C11	R731	H6	U141	D13	U66	D8
C708	G12	Q516	B7	R360	B11	R732	H11	U142	D13	U67	B8
C709	G6	Q517	C7	R361	B11	R733	H6	U143	E13	U68	A8
C710	G12	Q518	B7	R362	A11	R734	H11	U144	D13	U69	C8
C713	G6	Q519	C8	R363	B14	R735	H7	U145	E13	U7	E3
C714	G12	Q520	B8	R364	B14	R736	H10	U146	D13	U70	G8
C715	H6	Q521	C8	R365	B14	R737	H7	U147	B13	U71	F8
C716	H12	Q522	B8	R366	A14	R738	H10	U148	C13	U72	F8
C729	F7	Q701	F6	R367	B10	R739	H6	U149	E13	U73	D8
C730	F11	Q702	F11	R368	B10	R740	H11	U15	E4	U74	C9
C803	G4	Q703	G7	R369	D14	R741	H6	U150	D13	U75	H9
C804	G4	Q704	G11	R370	C14	R742	H11	U151	C13	U76	F9
C805	G4	Q705	G7	R501	C5	R743	H7	U152	D13	U77	F9
C806	G3	Q706	G10	R502	B5	R744	H10	U153	A13	U78	C9
C807	H4	Q707	G7	R503	C5	R745	H7	U154	B13	U79	C9
C808	H4	Q708	G11	R504	B5	R746	H10	U155	D13	U8	C3
C812	H5	Q709	G7	R505	C4	R757	H5	U156	D13	U80	D9
C901	G8	Q710	G10	R506	B4	R758	H12	U157	E13	U81	D9
C902	G9	Q711	H7	R507	C4	R759	H5	U158	A13	U82	D9
C903	F8	Q712	H11	R508	B4	R760	H12	U159	B13	U83	E9
C904	H9	Q713	H7	R509	C5	R793	G7	U16	E4	U84	E9
C905	H8	Q714	H11	R510	B5	R794	G11	U160	D13	U85	E9
C906	G9	Q715	H7	R513	C6	R795	G7	U161	E13	U86	F9
C907	G9	Q716	H10	R514	B6	R796	G10	U162	C13	U87	A9
C908	G3	Q717	H7	R515	C6	R803	G4	U163	C14	U88	B9
C930	C9	Q718	H10	R516	B6	R804	G3	U164	A14	U89	E9
C931	H14	Q741	G7	R517	C7	R805	H5	U165	B14	U9	B3
D301	C10	Q742	G11	R518	B7	R806	H3	U166	D14	U90	E9
D501	C6	Q743	G7	R519	C7	R807	H4	U167	I14	U91	G9
D502	B6	Q744	G10	R520	B7	R808	H3	U168	C14	U92	B10
D503	C6	Q801	F4	R521	C6	R809	H4	U169	D14	U93	E9
D504	B6	Q802	F3	R522	B6	R810	H3	U17	E4	U94	I10
D701	G5	Q803	H4	R523	C6	R811	I4	U170	H14	U95	F10
D702	G12	Q804	H3	R524	B6	R812	I4	U171	D14	U96	F10
D703	G6	Q901	F8	R525	C7	R820	I4	U172	D14	U97	C10
D704	G12	Q902	F8	R526	B7	R821	G4	U173	C14	U98	H10
D705	H6	Q903	F9	R527	C7	R822	G3	U174	D14	U99	D10
D706	H11	Q904	F9	R528	B7	R901	G8	U175	E14	W701	I6
D707	H6	Q905	H9	R531	C7	R902	G8	U176	C14	W702	I11
D708	H11	Q906	G9	R532	B7	R903	G8	U177	C14		

P291



C291	B2		
C292	B2		
J291	A3		
S291	A2		

P401



C351	B4	R352	B4				
C352	B4	R353	A4				
C353	A4	R354	B4				
C354	B4	R371	B4				
C355	B5	R372	C4				
C356	B5	R373	A4				
C357	B4	R374	B4				
C358	B4	R401	D4				
C359	A4	R402	E4				
C360	B4	R403	D4				
C401	D4	R404	E4				
C402	E4	R405	D3				
C403	D4	R406	E3				
C404	E4	R407	D3				
C405	D3	R408	E3				
C406	E3	R409	D2				
C407	D3	R410	E2				
C408	E3	R411	D2				
C409	D2	R412	E2				
C410	E2	R413	D3				
C411	D2	R414	E3				
C412	E2	R415	D2				
C413	D2	R416	E2				
C414	E2	R417	D2				
C415	D2	R418	E2				
C416	E2	R419	D2				
C417	D1	R420	E2				
C418	E1	U412	E3				
C419	D4	U414	D1				
C420	E4	U418	E3				
C421	E5	U419	D3				
EX3	D4	U420	D3				
EX4	E4	U421	E4				
J351	B5	W401	D1				
J401	E5	W402	B4				
L401	D4						
L402	E4						
Q401	E3						
R351	B4						

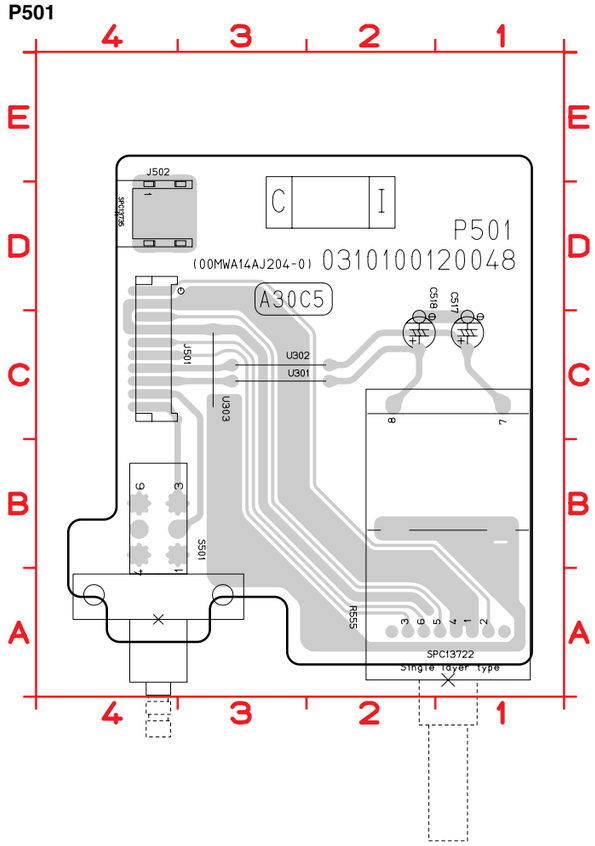
鉛フリー半田

半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

Lead-free Solder

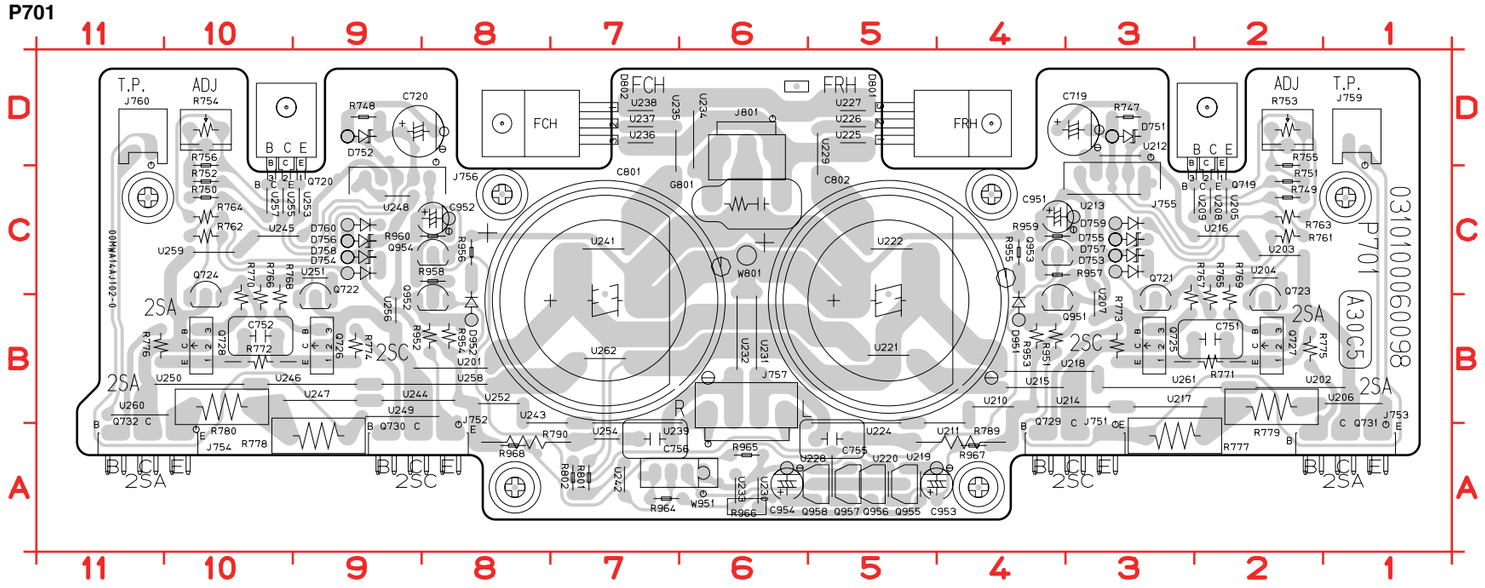
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

P501



C517	C1														
C518	C2														
J501	D4														
J502	D4														
R555	A1														
S501	A4														
U301	C2														
U302	C2														
U303	C3														

P701



C719	D4	J753	A1	R750	C10	R801	A7	U213	C3	U244	B8				
C720	D9	J754	A10	R751	C2	R802	A7	U214	B3	U245	C9				
C751	B2	J755	C3	R752	C10	R951	B4	U215	B3	U246	B9				
C752	B10	J756	C8	R753	D2	R952	B8	U216	C2	U247	B9				
C755	A5	J757	B6	R754	D10	R953	B4	U217	B2	U248	C9				
C756	A7	J759	D1	R755	D2	R954	B8	U218	B3	U249	B8				
C801	B7	J760	D11	R756	D10	R955	C4	U219	A5	U250	B10				
C802	B5	J801	D6	R761	C2	R956	C8	U220	A5	U251	C9				
C951	C4	Q719	C2	R762	C10	R957	C3	U221	B5	U252	B8				
C952	C9	Q720	C10	R763	C2	R958	C8	U222	C5	U253	C9				
C953	A5	Q721	B3	R764	C10	R959	C3	U224	B5	U254	A7				
C954	A6	Q722	B9	R765	B2	R960	C8	U225	D5	U255	C10				
D751	D3	Q723	B2	R766	B10	R964	A6	U226	D5	U256	B9				
D752	D9	Q724	B10	R767	B3	R965	A6	U227	D5	U257	C10				
D753	C3	Q725	B3	R768	B10	R966	A6	U228	A5	U258	B8				
D754	C9	Q726	B9	R769	B2	R967	A4	U229	C5	U259	C10				
D755	C3	Q727	B2	R770	B10	R968	A8	U230	A6	U260	B10				
D756	C9	Q728	B10	R771	B2	U201	B8	U231	B6	U261	B2				
D757	C3	Q951	B4	R772	B10	U202	B1	U232	B6	U262	B7				
D758	C9	Q952	B8	R773	B3	U203	C2	U233	A6	W801	C6				
D759	C3	Q953	C4	R774	B9	U204	C2	U234	C6	W951	A6				
D760	C9	Q954	C8	R775	B2	U205	C2	U235	C7						
D801	D5	Q955	A5	R776	B11	U206	B1	U236	D7						
D802	D7	Q956	A5	R777	A2	U207	B3	U237	D7						
D951	B4	Q957	A5	R778	A9	U208	C2	U238	D7						
D952	B8	Q958	A5	R779	B2	U209	C3	U239	B6						
G801	C6	R747	D3	R780	B10	U210	B4	U241	C7						
J751	A3	R748	D9	R789	A4	U211	B4	U242	A7						
J752	A8	R749	C2	R790	A7	U212	D3	U243	B7						

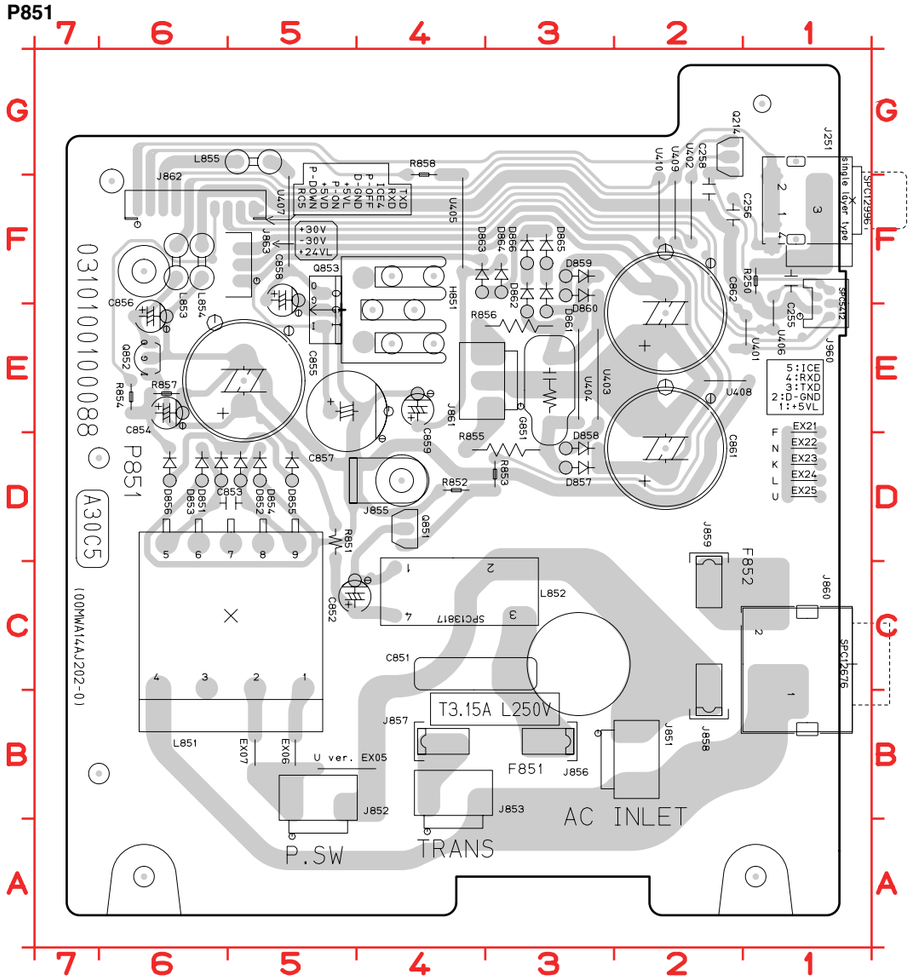
鉛フリー半田

半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

Lead-free Solder

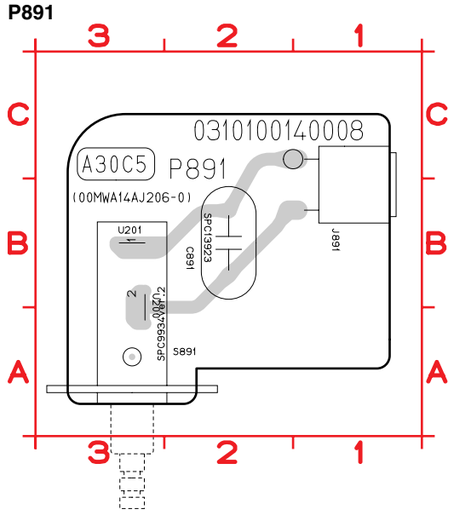
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

P851



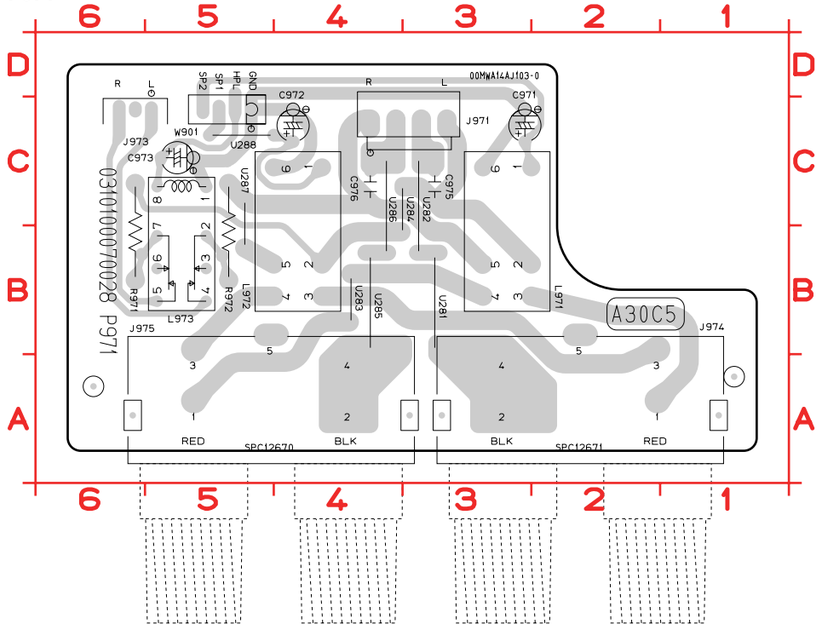
C255	F1	D866	F3	Q214	G2		
C256	F2	EX05	B4	Q851	D4		
C258	F2	EX06	B5	Q852	E6		
C851	C3	EX07	B5	Q853	E5		
C852	C5	EX21	E1	R250	F1		
C853	D5	EX22	D1	R851	D5		
C854	E6	EX23	D1	R852	D4		
C855	E5	EX24	D1	R853	D3		
C856	E6	EX25	D1	R854	E6		
C857	E5	G851	E3	R855	D3		
C858	F5	J251	F1	R856	E3		
C859	E4	J851	B2	R857	E6		
C861	D2	J852	B5	R858	G4		
C862	E2	J853	B4	U401	E1		
D851	D6	J855	D4	U402	F2		
D852	D5	J856	B3	U403	E3		
D853	D6	J857	B4	U404	E3		
D854	D5	J858	B2	U405	F4		
D855	D5	J859	C2	U406	E1		
D856	D6	J860	C1	U407	F5		
D857	D3	J861	E3	U408	E1		
D858	D3	J862	F6	U409	F2		
D859	F3	J863	F5	U410	F2		
D860	F3	J960	E1				
D861	E3	L851	C5				
D862	E3	L852	C4				
D863	F4	L853	F6				
D864	F3	L854	F6				
D865	F3	L855	G5				

P891



C891	B2
J891	C2
S891	A3
U200	A3
U201	B3

P971



C971	C3	R971	B6
C972	C4	R972	B5
C973	C5	U281	B3
C975	C3	U282	B3
C976	C4	U283	B4
J971	C4	U284	B4
J973	C5	U285	B4
J974	A2	U286	B4
J975	A5	U287	B5
L971	C3	U288	C5
L972	C4	W901	C5
L973	C5		

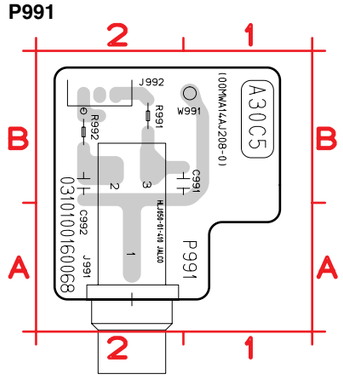
鉛フリー半田

半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

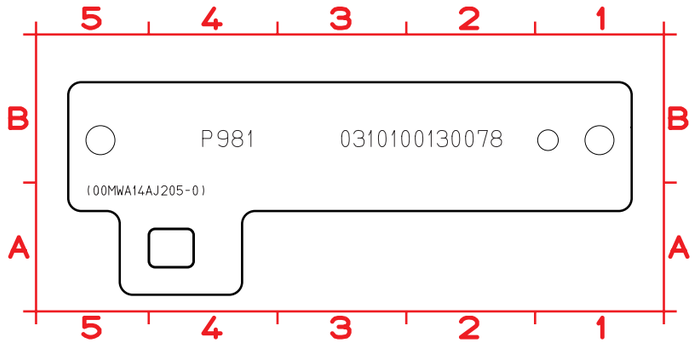
Lead-free Solder

When soldering, use the Lead-free Solder (Sn-Ag-Cu).

P991



C991 B2
C992 B2
J991 A2
J992 B2
R991 B2
R992 B2
W991 B1



鉛フリー半田
半田付けには、鉛フリー半田 (Sn-Ag-Cu) を使用してください。

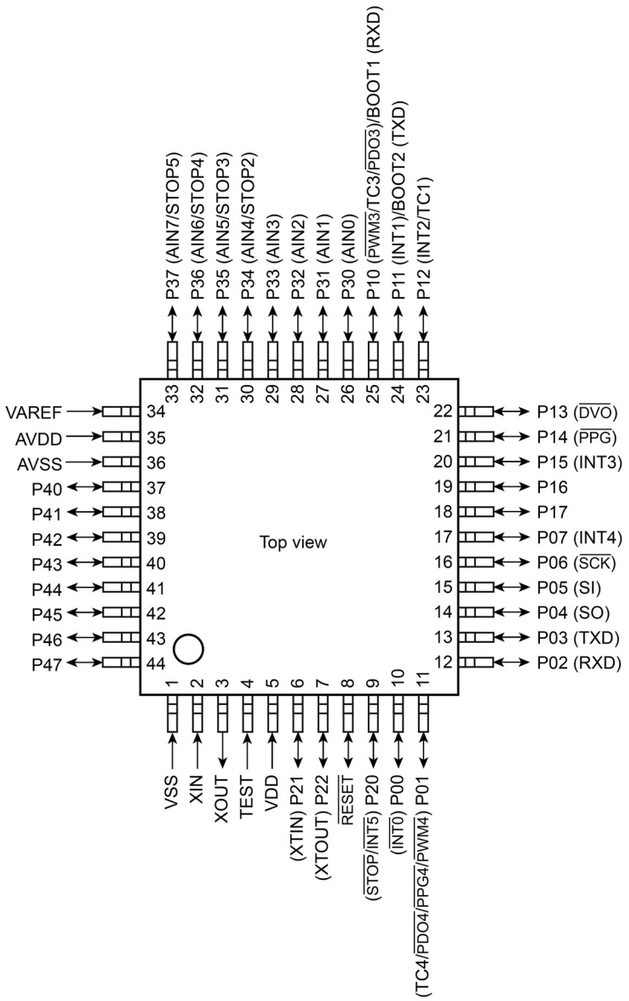
Lead-free Solder
When soldering, use the Lead-free Solder (Sn-Ag-Cu).

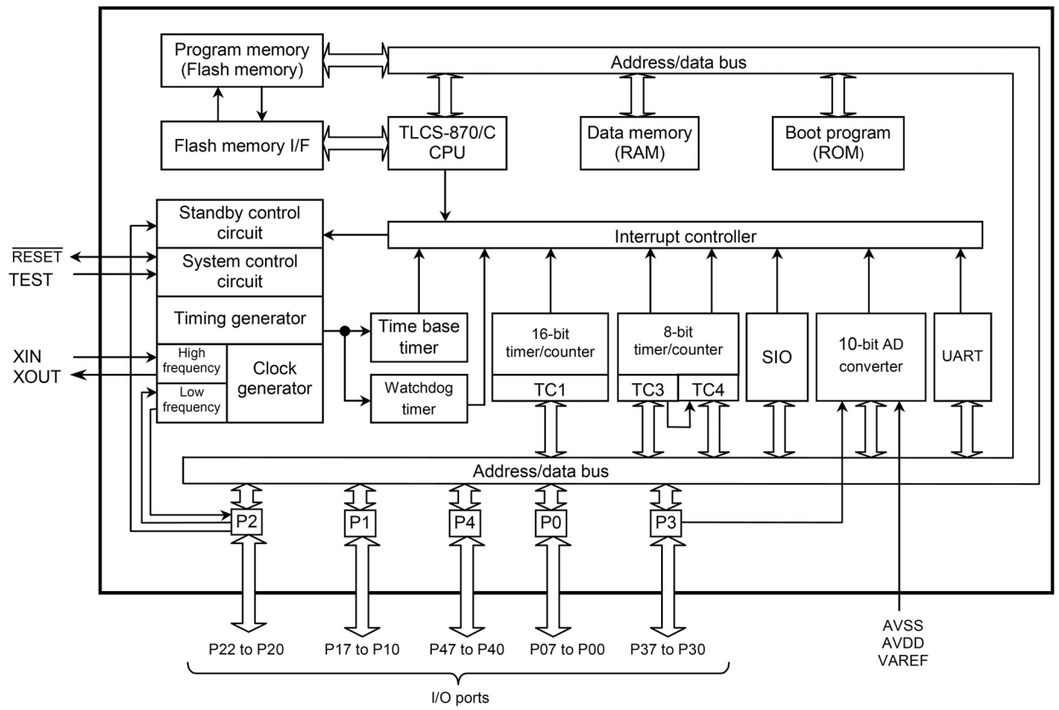
9. MICROPROCESSOR AND IC DATA

Q201 : TMP86FH47UG

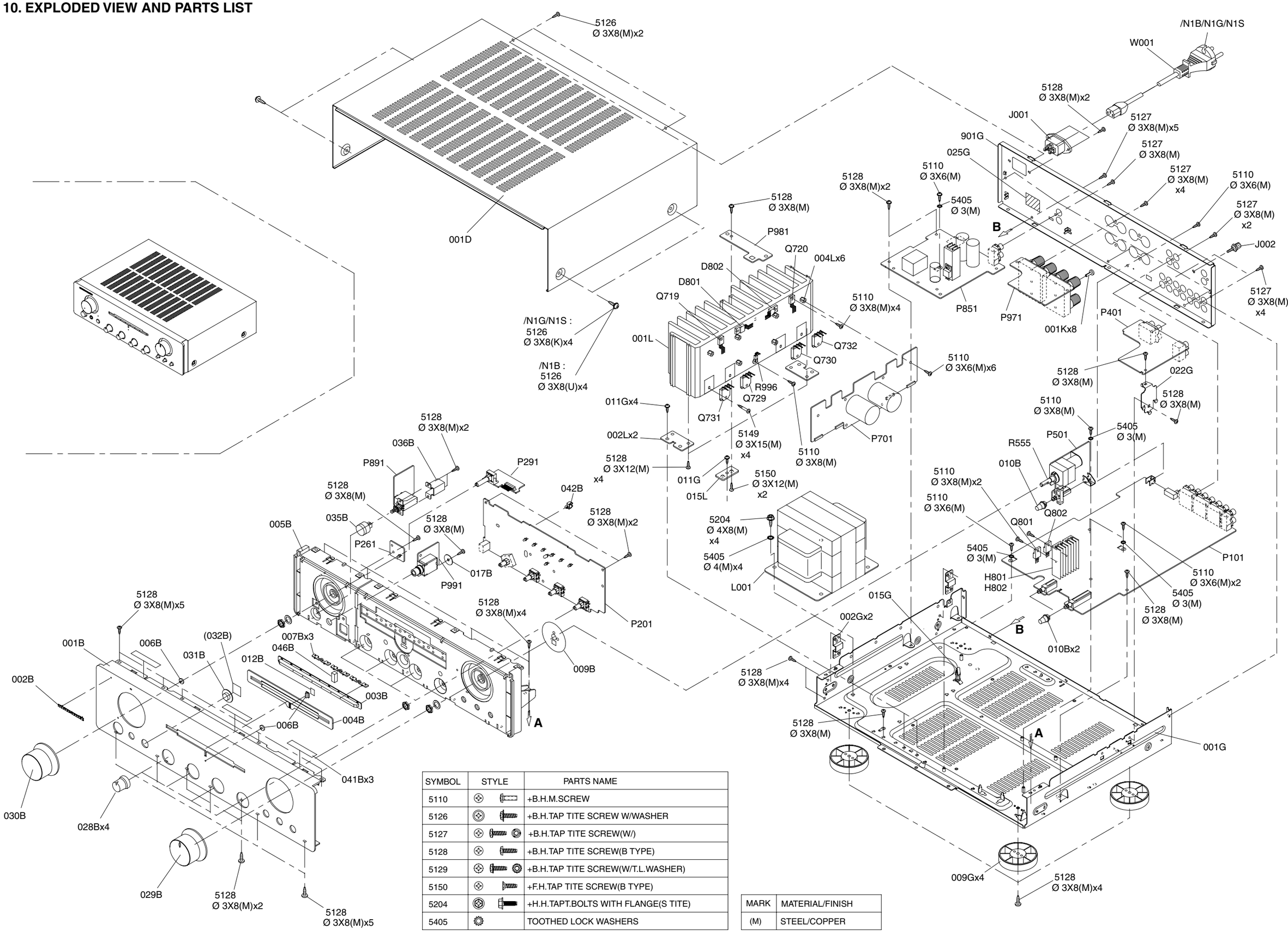
Pin No.	Port name	I/O	use	Port Setting				Note
				Name	Act.	Init.	STBY	
1	VSS	-	-	VSS	-	-	-	0 V
2	XIN	I	I		-	-	-	8M Clock in
3	XOUT	O	O		-	-	-	8M Clock out
4	TEST	I	I		H	L	L	L->H : PROM Mode
5	VDD	-	-	VDD	-	-	-	
6	P21 (XTIN)	I/O	I	PROTECT_1	L	H	H	DC Vol/Over Current
7	P22 (XTOUT)	I/O	I	PROTECT_2	L	H	H	Vol. Abnormal Detect
8	$\overline{\text{RESET}}$	I/O	I		L	-	H	u-com Reset port
9	P20 ($\overline{\text{STOP}}$/$\overline{\text{INT5}}$)	I/O	I	P_OFF	L	H	L	Detect Power Off
10	P00 ($\overline{\text{INT0}}$)	I/O	O	SPK	L	H	H	Spk Relay ON
11	P01 ($\overline{\text{TC4}}$/PD04/$\overline{\text{PPG4}}$/$\overline{\text{PWM4}}$)	I/O	O	RC-5_OUT	L	H	H	RC-5 Output
12	P02 (RXD)	I/O	O	VOL_UP	L	H	H	Volume up
13	P03 (TXD)	I/O	O	VOL_DOWN	L	H	H	Volume down
14	P04 (SO)	I/O	O	DI	-	L	L	Data (LC78212)
15	P05 (SI)	I/O	O	P_ON	L	H	H	Primary Relay ON
16	P06 ($\overline{\text{SCK}}$)	I/O	O	CLK	-	-	L	Clock (LC78212)
17	P07 (INT4)	I/O	O	CE	H	L	L	CE (LC78212)
18	P17	I/O	O	IIC_CLOCK	-	L	L	I2C (EEPROM) (Pull up)
19	P16	I/O	I/O	IIC_DATA	-	L	L	I2C (EEPROM) (Pull up)
20	P15 (INT3)	I/O	I	POWER_TACT	L	H	H	U ver. Power SW
21	P14 ($\overline{\text{PPG}}$)	I/O	O	REC1_MUTE	L	H	L	Not USE (Pull Up)
22	P13 ($\overline{\text{DVO}}$)	I/O	O	REC2_MUTE	L	H	L	Not USE (Pull Up)
23	P12 (INT/TC1)	I/O	I	RC-5_IN	L	H	H	RC-5 Input
24	P11 (INT1)(BOOT2)	I/O	I/O	Boot2/TXD	-	-	-	Communication (Pull Up)
25	P10 ($\overline{\text{PWM3}}$/TC3/$\overline{\text{PD03}}$)(BOOT1)	I/O	I/O	Boot1/RXD	-	-	-	Communication (Pull Up)
26	P30 (AIN0)	I/O	I	REC_SEL_1	-	-	-	Rec out sel A/D
27	P31 (AIN1)	I/O	I	M_B_DOWN	L	H	H	Main B Down
28	P32 (AIN2)	I/O	I	ENC_1	L	H	H	Input Sel. Rotary Enc.
29	P33 (AIN3)	I/O	I	ENC_2	L	H	H	Input Sel. Rotary Enc.
30	P34 (AIN4/STOP2)	I/O	I	MODEL_SELE	-	-	-	PM7001:H/PM8001:L
31	P35 (AIN5/STOP3)	I/O	O	KILL IR	H	L	L	RC-5 Kill
32	P36 (AIN6/STOP4)	I/O	O	M_MUTE	H	L	L	Manual Mute
33	P37 (AIN7/STOP5)	I/O	I	CODE_SEL	L	H	L	Code Sele. H : 16/L : ?
34	VAREF	-	-	VAREF	-	-	-	A/D Reference
35	AVDD	-	-	AVDD	-	-	-	
36	AVSS	-	-	AVSS	-	-	-	0 V
37	P40	I/O	O	LED_STANDBY	L	H	L	Standby LED
38	P41	I/O	O	LED_PHONO	L	H	H	Phono LED
39	P42	I/O	O	LED_CD	L	H	H	CD LED
40	P43	I/O	O	LED_TUNER	L	H	H	Tuner LED
41	P44	I/O	O	LED_AUX/DVD	L	H	H	AUX/DVD LED
42	P45	I/O	O	LED_REC1	L	H	H	Rec 1 LED
43	P46	I/O	O	LED_REC2	L	H	H	Rec 2 LED
44	P47	I/O	O	LED_MUTE	L	H	H	Mute LED

Q201 : TMP86FH47UG





10. EXPLODED VIEW AND PARTS LIST



SYMBOL	STYLE	PARTS NAME
5110		+B.H.M.SCREW
5126		+B.H.TAP TITE SCREW W/WASHER
5127		+B.H.TAP TITE SCREW(W/)
5128		+B.H.TAP TITE SCREW(B TYPE)
5129		+B.H.TAP TITE SCREW(W/T.L.WASHER)
5150		+F.H.TAP TITE SCREW(B TYPE)
5204		+H.H.TAPT.BOLTS WITH FLANGE(S TITE)
5405		TOOTHED LOCK WASHERS

MARK	MATERIAL/FINISH
(M)	STEEL/COPPER

PWB NAME	POS. NO.		VERS. COLOR	PART NO. (FOR EUR)	PART NO. (MZ)	PART NAME	DESCRIPTION
		001B	/N1B	00M14AJ248010	00M14AJ248010	FRONT PANEL	FRONT AL PANEL BL PM7001
		001B	/N1G	00M14AJ248110	00M14AJ248110	FRONT PANEL	FRONT AL PANEL GL PM7001
		001B	/N1S	00M14AJ248210	00M14AJ248210	FRONT PANEL	FRONT AL PANEL SL PM7001
		002B	/N1B	00M14AJ251010	00M14AJ251010	BADGE	MZ BADGE GL
		002B	/N1G	00M14AJ251010	00M14AJ251010	BADGE	MZ BADGE GL
		002B	/N1S	00M14AJ251020	00M14AJ251020	BADGE	MZ BADGE SL
		003B	/N1B	00M14AJ063110	00M14AJ063110	ESCUTCHEON	CENTER ESC GL
		003B	/N1G	00M14AJ063110	00M14AJ063110	ESCUTCHEON	CENTER ESC GL
		003B	/N1S	00M14AJ063210	00M14AJ063210	ESCUTCHEON	CENTER ESC SL
		004B	/N1B	00M14AJ259010	00M14AJ259010	BUSHING	CENTER BUSH BL
		004B	/N1G	00M14AJ259110	00M14AJ259110	BUSHING	CENTER BUSH GL
		004B	/N1S	00M14AJ259210	00M14AJ259210	BUSHING	CENTER BUSH SL
		005B	/N1B	00M14AJ105020	00M14AJ105020	CHASSIS	FRONT MOLD CHASSIS BL
		005B	/N1G	00M14AJ105120	00M14AJ105120	CHASSIS	FRONT MOLD CHASSIS GL
		005B	/N1S	00M14AJ105220	00M14AJ105220	CHASSIS	FRONT MOLD CHASSIS SL
		006B		00M14AJ355010	00M14AJ355010	LENS	INDICATOR LENS
		007B		00M14AJ355020	00M14AJ355020	LENS	CENTER ESC LENS
		010B	/N1B	00M14AJ270020	00M14AJ270020	BUTTON	FUNCTION BUTTON BL
		010B	/N1G	00M14AJ270120	00M14AJ270120	BUTTON	FUNCTION BUTTON GL
		010B	/N1S	00M14AJ270220	00M14AJ270220	BUTTON	FUNCTION BUTTON SL
		028B	/N1B	00M14AJ154500	00M14AJ154500	KNOB	TONE KNOB BL
		028B	/N1G	00M14AJ154510	00M14AJ154510	KNOB	TONE KNOB GL
		028B	/N1S	00M14AJ154520	00M14AJ154520	KNOB	TONE KNOB SL
		029B	/N1B	00M14AJ154010	00M14AJ154010	KNOB	MASTER VOLUME KNOB POINTER BL
		029B	/N1G	00M14AJ154110	00M14AJ154110	KNOB	MASTER VOLUME KNOB POINTER GL
		029B	/N1S	00M14AJ154210	00M14AJ154210	KNOB	MASTER VOLUME KNOB POINTER SL
		030B	/N1B	00M14AJ154020	00M14AJ154020	KNOB	INPUT SELECTOR KNOB BL
		030B	/N1G	00M14AJ154120	00M14AJ154120	KNOB	INPUT SELECTOR KNOB GL
		030B	/N1S	00M14AJ154220	00M14AJ154220	KNOB	INPUT SELECTOR KNOB SL
		031B	/N1B	00M14AJ355030	00M14AJ355030	LENS	IR LENS BL
		031B	/N1G	00M14AJ355130	00M14AJ355130	LENS	IR LENS WHITE
		031B	/N1S	00M14AJ355130	00M14AJ355130	LENS	IR LENS WHITE
		035B	/N1B	00M14AJ270010	00M14AJ270010	BUTTON	POWER BUTTON BL
		035B	/N1G	00M14AJ270110	00M14AJ270110	BUTTON	POWER BUTTON GL
		035B	/N1S	00M14AJ270210	00M14AJ270210	BUTTON	POWER BUTTON SL
		009G	/N1B	00M14AJ057110	00M14AJ057110	LEG	LEGS GL
		009G	/N1G	00M14AJ057110	00M14AJ057110	LEG	LEGS GL
		009G	/N1S	00M14AJ057210	00M14AJ057210	LEG	LEGS SL
		J001		0410500010090	0410500010090	TERMINAL	MC991874 MAINS INLET
		J002		0460100070040	0460100070040	TERMINAL	T12-159-N001
	⚠	L001		1013100010098	1013100010098	TRANSF.	# POWER TRANSFORMER FOR 230V
		P101		nsp	nsp	PWB ASSY	MAIN PWB (P101)
		P201		nsp	nsp	PWB ASSY	U-PRO/TONE PWB (P201)
		P261		nsp	nsp	PWB ASSY	STANDBY LED PWB (P261)
		P291		nsp	nsp	PWB ASSY	INPUT SEL PWB (P291)
		P401		nsp	nsp	PWB ASSY	PHONO AMP PWB (P401)
		P501		nsp	nsp	PWB ASSY	VOLUME PWB (P501)
		P701		nsp	nsp	PWB ASSY	POWER STAGE PWB (P701)
		P851	/N1B	nsp	nsp	PWB ASSY	STANDBY PWB (P851)
		P851	/N1G	nsp	nsp	PWB ASSY	STANDBY PWB (P851)
		P851	/N1S	nsp	nsp	PWB ASSY	STANDBY PWB (P851)
		P891		nsp	nsp	PWB ASSY	POWER SW PWB (P891)
		P971		nsp	nsp	PWB ASSY	SPK TERMINAL PWB (P971)
		P981		nsp	nsp	PWB ASSY	CLAMP PWB (P981)
		P991	/N1B	nsp	nsp	PWB ASSY	HEADPHONE PWB (P991)
		P991	/N1G	nsp	nsp	PWB ASSY	HEADPHONE PWB (P991)
		P991	/N1S	nsp	nsp	PWB ASSY	HEADPHONE PWB (P991)
PACKING							
		001T		00M14AJ851310	00M14AJ851310	USER GUIDE	USER GUIDE N
		Z001		3070100010088	3070100010088	UNIT KIT	REMOTE CONTROLLER RC4001PM
	⚠	W001		0110500020010	0110500020010	MAINS CORD	# 2P MAINS CORD 10A 250V CLASS2
NOT STANDARD SPARE PART							
		001S		nsp	00M14AJ801010	PACKING CASE	PACKING CASE PM7001
		002S		nsp	00M14AJ809010	CUSHION	CUSHION(L/R)
		001D	/N1B	nsp	00M14AJ257010	LID	TOP COVER BL
		001D	/N1G	nsp	00M14AJ257110	LID	TOP COVER GL
		001D	/N1S	nsp	00M14AJ257210	LID	TOP COVER SL

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

11. ELECTRICAL PARTS LIST

PARTS INFORMATION

RESISTORS

1) 00MGD05×××140, Carbon film fixed resistor, ±5% 1/4W
2) 00MGD05×××160, Carbon film fixed resistor, ±5% 1/6W

① —— Resistance value

Examples ;

①Resistance value

0.1 Ω 001	10 Ω 100	1 kΩ 102	100 kΩ 104
0.5 Ω 005	18 Ω 180	2.7 kΩ 272	680 kΩ 684
1 Ω 010	100 Ω 101	10 kΩ 103	1 MΩ 105
6.8 Ω 068	390 Ω 391	22 kΩ 223	4.7 MΩ 475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

CERAMIC CAP.

3) 00MDD1××××370 — ②③ Capacity value; Tolerance
Ceramic capacitor
Disc type
Temp.coeff.P350 ～N1000, 50V

Examples ;

② Tolerance (Capacity deviation)

±0.25 pF 0
±0.5 pF 1
±5% 5

＊ Tolerance of COMMON PARTS handled here are as follows :

0.5 pF～ 5 pF .... ±0.25 pF
6 pF～ 10 pF .... ±0.5 pF
12 pF～ 560 pF .... ±5%

③ Capacity value

0.5 pF 005	3 pF 030	100 pF 101
1 pF 010	10 pF 100	220 pF 221
1.5 pF 015	47 pF 470	560 pF 561

CERAMIC CAP.

4) 00MDK16×××300, — ④ Capacity value
High dielectric constant ceramic capacitor
Disc type
Temp.chara. 2B4, 50V

Examples ;

④ Capacity value

100 pF 101	1000 pF 102	10000 pF 103
470 pF 471	2200 pF 222	

ELECTROLY CAP. (⏚)

5) 00MEA×××××10, — ⑤ Capacity value; ⑥ Working voltage
Electrolytic capacitor
One-way lead type, Tolerance ±20%

Examples ;

⑤ Capacity value

0.1 µF 104	4.7 µF 475	100 µF 107
0.33 µF 334	10 µF 106	330 µF 337
1 µF 105	22 µF 226	1100 µF 118
		2200 µF 228

⑥ Working voltage

6.3V 006	25V 025
10V 010	35V 035
16V 016	50V 050

FILM CAP. (⏤)

6) 00MDF15×××350 / 00MDF15×××310 → Plastic film capacitor
One-way type, Mylar ±5% 50V
00MDF16×××310 → Plastic film capacitor
One-way type, Mylar ±10% 50V
⑦ Capacity value

Examples ;

⑦ Capacity value

0.001 µF (1000 pF) 102	0.1 µF 104
0.0018 µF 182	0.56 µF 564
0.01 µF 103	1 µF 105
0.015 µF 153	

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows;

1. KOA Corporation

Part No. (MJI)	Type No. (KOA)	Description
00MNH05×××140	RF25S××××ΩJ	(±5% 1/4W)
00MNH05×××120	RF50S××××ΩJ	(±5% 1/2W)
00MNH85×××110	RF73B2A××××ΩJ	(±5% 1/10W)
00MNH95×××140	RF73B2E××××ΩJ	(±5% 1/4W)

＊Resistance value; Resistance value (0.1 Ω – 10 kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No. (MJI)	Type No. (MEC)	Description
00MNF05×××140	ERD-2FCJ×××	(±5% 1/4W)
00MRF05×××140		
00MNF02×××140	ERD-2FCG×××	(±2% 1/4W)
00MRF02×××140		

＊Resistance value; ＊Resistance value

Examples ;

＊Resistance value

0.1 Ω 001	10 Ω 100	1 kΩ 102	100 kΩ 104
0.5 Ω 005	18 Ω 180	2.7 kΩ 272	680 kΩ 684
1 Ω 010	100 Ω 101	10 kΩ 103	1 MΩ 105
6.8 Ω 068	390 Ω 391	22 kΩ 223	4.7 MΩ 475

ABBREVIATION AND MARKS

ANT.	: ANTENNA	BATT.	: BATTERY
CAP.	: CAPACITOR	CER.	: CERAMIC
CONN.	: CONNECTING	DIG.	: DIGITAL
HP	: HEADPHONE	MIC.	: MICROPHONE
µ-PRO	: MICROPROCESSOR	REC.	: RECORDING
RES.	: RESISTOR	SPK	: SPEAKER
SW	: SWITCH	TRANSF.	: TRANSFORMER
TRIM.	: TRIMMING	TRS.	: TRANSISTOR
VAR.	: VARIABLE	X'TAL	: CRYSTAL

NOTE ON FUSE :

Regarding to all parts of parts code **00MFS20**xxx**2**xx, replace only with Wickmann-Werke GmbH, Type 372 non glass type fuse.

NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意：

⚠がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

040623ecm

PWB NAME	POS. NO.	VERS. COLOR	PART NO. (FOR EUR)	PART NO. (MZ)	PART NAME	DESCRIPTION
					MAIN PWB(P101)	
P101	C303		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C304		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C305		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C306		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C307		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C313		nsp	1340100425080	ELECT. CAP.	RA2-25V220ME3#8-T2
P101	C314		nsp	1340100425080	ELECT. CAP.	RA2-25V220ME3#8-T2
P101	C343		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C344		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C345		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C346		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C347		nsp	1340100425080	ELECT. CAP.	RA2-25V220ME3#8-T2
P101	C348		nsp	1340100425080	ELECT. CAP.	RA2-25V220ME3#8-T2
P101	C505		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C506		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C511		nsp	1340500084070	ELECT. CAP.	47UF M 16V ARS-TYPE ELNA
P101	C512		nsp	1340500084070	ELECT. CAP.	47UF M 16V ARS-TYPE ELNA
P101	C513		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C514		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C515		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C516		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C521		nsp	1340100455070	ELECT. CAP.	RA2-25V101MF3#8-T2
P101	C522		nsp	1340100455070	ELECT. CAP.	RA2-25V101MF3#8-T2
P101	C701		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C702		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C705		nsp	1340100455070	ELECT. CAP.	RA2-25V101MF3#8-T2
P101	C706		nsp	1340100455070	ELECT. CAP.	RA2-25V101MF3#8-T2
P101	C707		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C708		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C709		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C710		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C713		nsp	1340100865080	ELECT. CAP.	RA2-63V221MH5#8-S1
P101	C714		nsp	1340100865080	ELECT. CAP.	RA2-63V221MH5#8-S1
P101	C715		nsp	1340100865080	ELECT. CAP.	RA2-63V221MH5#8-S1
P101	C716		nsp	1340100865080	ELECT. CAP.	RA2-63V221MH5#8-S1
P101	C803		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C804		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P101	C805		nsp	1340100455070	ELECT. CAP.	RA2-25V101MF3#8-T2
P101	C806		nsp	1340100455070	ELECT. CAP.	RA2-25V101MF3#8-T2
P101	C812		nsp	1340100595060	ELECT. CAP.	RA2-35V221MH3#8-T2
P101	C901		nsp	1340100665040	ELECT. CAP.	RA2-50V010ME3E#8-T2
P101	C902		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C930		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	C931		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P101	D301		nsp	00D2760401905	DIODE	1SS133T77
P101	D501		nsp	00D2760401905	DIODE	1SS133T77
P101	D502		nsp	00D2760401905	DIODE	1SS133T77
P101	D503		nsp	00D2760401905	DIODE	1SS133T77
P101	D504		nsp	00D2760401905	DIODE	1SS133T77
P101	D701		nsp	00D2760645907	DIODE	MTZJ18A T77
P101	D702		nsp	00D2760645907	DIODE	MTZJ18A T77
P101	D703		nsp	00D2760645907	DIODE	MTZJ18A T77
P101	D704		nsp	00D2760645907	DIODE	MTZJ18A T77
P101	D705		nsp	00D2760401905	DIODE	1SS133T77
P101	D706		nsp	00D2760401905	DIODE	1SS133T77
P101	D707		nsp	00D2760401905	DIODE	1SS133T77
P101	D708		nsp	00D2760401905	DIODE	1SS133T77
P101	D803		nsp	00D2760645910	DIODE	MTZJ20A T77
P101	D804		nsp	00D2760645910	DIODE	MTZJ20A T77
P101	D805		nsp	00D2760401905	DIODE	1SS133T77
P101	D806		nsp	00D2760401905	DIODE	1SS133T77
P101	D901		nsp	00D2760401905	DIODE	1SS133T77
P101	D902		nsp	00D2760401905	DIODE	1SS133T77
P101	J301		0460100020090	0460100020090	TERMINAL	YKC21-3446 14X14 RA 2L2P
P101	J302		0460100030020	0460100030020	TERMINAL	YKC21-3077
P101	J303		0460100030020	0460100030020	TERMINAL	YKC21-3077

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

PWB NAME	POS. NO.	VERS. COLOR	PART NO. (FOR EUR)	PART NO. (MZ)	PART NAME	DESCRIPTION
P101	J304		0460100030020	0460100030020	TERMINAL	YKC21-3077
P101	J917		0450100010030	0450100010030	CONN.	B10P-MQ-C
P101	L901		0820100020050	0820100020050	RELAY	MR82-24USR
P101	L902		0820100020050	0820100020050	RELAY	MR82-24USR
P101	L903		1190100014090	1190100014090	COIL	BL02RN2-R62T2 FERRITE BEAD
P101	Q302		2340100017040	2340100017040	IC	LC78212
P101	Q303		2340100017040	2340100017040	IC	LC78212
P101	Q305		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q306		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q307		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q308		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q309		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q310		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q311		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q312		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q313		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q314		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q315		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q316		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q317		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q318		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q319		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q320		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q501		00D2630609002	00D2630609002	IC	NJM2068DDC +T
P101	Q502		00D2630609002	00D2630609002	IC	NJM2068DDC +T
P101	Q503		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q504		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q505		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q506		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q507		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q508		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q509		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q510		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q511		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q512		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q513		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q514		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q515		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q516		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q517		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q518		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q519		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q520		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q521		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q522		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q701		00D2630609002	00D2630609002	IC	NJM2068DDC +T
P101	Q702		00D2630609002	00D2630609002	IC	NJM2068DDC +T
P101	Q703		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q704		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q705		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q706		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q707		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q708		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q709		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q710		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q711		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q712		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q713		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q714		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q715		00D2710168900	00D2710168900	TRS.	2SA1145 (O/Y)
P101	Q716		00D2710168900	00D2710168900	TRS.	2SA1145 (O/Y)
P101	Q717		00D2730281906	00D2730281906	TRS.	2SC2705 (O/Y)
P101	Q718		00D2730281906	00D2730281906	TRS.	2SC2705 (O/Y)
P101	Q741		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q742		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P101	Q743		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P101	Q744		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR

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PWB NAME	POS. NO.	VERS. COLOR	PART NO. (FOR EUR)	PART NO. (MZ)	PART NAME	DESCRIPTION
P101	⚠ Q801		2140500010050	2140500010050	TRS.	! 2SD1415A
P101	⚠ Q802		2120500010090	2120500010090	TRS.	! 2SB1020A
P101	Q803		2110500010060	2110500010060	TRS.	KTA1267 RANK=Y
P101	Q804		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P101	Q901		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P101	Q902		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P101	Q903		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P101	Q904		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P101	Q905		2110500010060	2110500010060	TRS.	KTA1267 RANK=Y
P101	Q906		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P101	Q907		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P101	Q908		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P101	Q909		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P101	Q910		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P101	Q911		2110500010060	2110500010060	TRS.	KTA1267 RANK=Y
P101	Q912		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P101	Q915		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P101	Q916		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P101	⚠ R821		1210100054040	1210100054040	RES.	! 4.7 OHM +-5% 1/6W
P101	⚠ R822		1210100054040	1210100054040	RES.	! 4.7 OHM +-5% 1/6W
P101	⚠ R757		1210500024030	1210500024030	RES.	! 10 OHM +-5% 1/4W
P101	⚠ R758		1210500024030	1210500024030	RES.	! 10 OHM +-5% 1/4W
P101	⚠ R759		1210500024030	1210500024030	RES.	! 10 OHM +-5% 1/4W
P101	⚠ R760		1210500024030	1210500024030	RES.	! 10 OHM +-5% 1/4W
P101	S701		0650100030030	0650100030030	SW	SPUN19
P101	S901		0650100020000	0650100020000	SW	SPUN194900
P101	S902		0640100010040	0640100010040	SW	SSSU122P09N-1
					U-PRO/TONE PWB (P201)	
P201	C204		nsp	1340101274090	ELECT. CAP.	RC2-25V100ME1#-T2
P201	C207		nsp	1340101274090	ELECT. CAP.	RC2-25V100ME1#-T2
P201	C251		nsp	1340101184050	ELECT. CAP.	RC2-10V221MG1#-T2
P201	C253		nsp	1340101184050	ELECT. CAP.	RC2-10V221MG1#-T2
P201	C254		nsp	1340101274090	ELECT. CAP.	RC2-25V100ME1#-T2
P201	C257		nsp	1340101274090	ELECT. CAP.	RC2-25V100ME1#-T2
P201	C601		nsp	1340101204080	ELECT. CAP.	RC2-16V220ME1#-T2
P201	C602		nsp	1340101204080	ELECT. CAP.	RC2-16V220ME1#-T2
P201	C611		nsp	1340101434010	ELECT. CAP.	RC2-50V2R2MD1#-T2
P201	C612		nsp	1340101434010	ELECT. CAP.	RC2-50V2R2MD1#-T2
P201	C615		nsp	1340101204080	ELECT. CAP.	RC2-16V220ME1#-T2
P201	C616		nsp	1340101204080	ELECT. CAP.	RC2-16V220ME1#-T2
P201	C617		nsp	1340101314080	ELECT. CAP.	RC2-25V101MG1
P201	C618		nsp	1340101314080	ELECT. CAP.	RC2-25V101MG1
P201	D202		2030500013020	2030500013020	DIODE	1D3 1A/200V
P201	D251		2630100010090	2630100010090	LED.	LT3D8B RED LED
P201	D252		2630100010090	2630100010090	LED.	LT3D8B RED LED
P201	D253		2630100010090	2630100010090	LED.	LT3D8B RED LED
P201	D254		2630100010090	2630100010090	LED.	LT3D8B RED LED
P201	D255		2630100010090	2630100010090	LED.	LT3D8B RED LED
P201	D256		2630100010090	2630100010090	LED.	LT3D8B RED LED
P201	D257		2630100010090	2630100010090	LED.	LT3D8B RED LED
P201	D259		nsp	00D2760401905	DIODE	1SS133T77
P201	⚠ D260		00D3939576903	00D3939576903	LED.	! SELU1E10CXM BLUE LED
P201	J205		0440100450000	0440100450000	CONN.	TSK-B04X-A1
P201	L201		1190100014090	1190100014090	COIL	BL02RN2-R62T2 FERRITE BEAD
P201	L202		1190100014090	1190100014090	COIL	BL02RN2-R62T2 FERRITE BEAD
P201	Q201		2439100016008	2439100016008	U-PRO	TMP86FH47UG WITHOUT SOFTWARE
P201	Q202		2350100037030	2350100037030	IC	LB1630 MOTOR DRIVE IC
P201	Q204		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P201	Q205		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q206		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P201	Q207		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q208		2350100024030	2350100024030	IC	PST600D-2 RESET IC
P201	Q209		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q210		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q211		2469100015000	2469100015000	IC	AT24C08AN-10SI-2.7 EEPROM
P201	Q212		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q213		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)

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PWB NAME	POS. NO.	VERS. COLOR	PART NO. (FOR EUR)	PART NO. (MZ)	PART NAME	DESCRIPTION
P201	Q215		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P201	Q251		2620100010060	2620100010060	PHOTO UNIT	RPM6936-V4 (IR SENSOR)
P201	Q252		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q253		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P201	Q254		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q255		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P201	Q601		00D2630609002	00D2630609002	IC	NJM2068DDC +T
P201	Q603		00D2630609002	00D2630609002	IC	NJM2068DDC +T
P201	Q604		00D2630609002	00D2630609002	IC	NJM2068DDC +T
P201	R605		0750100020070	0750100020070	VAR. RES.	RK14K124003J
P201	R606		0750100020070	0750100020070	VAR. RES.	RK14K124003J
P201	R621		0750100030000	0750100030000	VAR. RES.	RK14K1240D0P
P201	S251		0630100010010	0630100010010	ROTARY SW	SRBV17-F0020-11
P201	X201		1420100014090	1420100014090	FILTER	CST8.00MT-TF01
					STANDBY LED PWB (P261)	
P261	D258		2630100010090	2630100010090	LED.	LT3D8B RED LED
					INPUT SEL PWB (P291)	
P291	J291		0440100470060	0440100470060	CONN.	TSK-B04P-A1
P291	S291		0630100020040	0630100020040	ROTARY SW	SRRSIC
					PHONO AMP PWB (P401)	
P401	C403		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P401	C404		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P401	C405		nsp	1340100235070	ELECT. CAP.	RA2-10V471MG3#8-T2
P401	C406		nsp	1340100235070	ELECT. CAP.	RA2-10V471MG3#8-T2
P401	C413		nsp	1340100425080	ELECT. CAP.	RA2-25V220ME3#8-T2
P401	C414		nsp	1340100425080	ELECT. CAP.	RA2-25V220ME3#8-T2
P401	C417		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P401	C418		nsp	1340100465000	ELECT. CAP.	RA2-25V221MG3#8-T2
P401	J351		0460100030020	0460100030020	TERMINAL	YKC21-3077
P401	J401		0460100050080	0460100050080	TERMINAL	YKC21-3082 14X14 RA 2L2P
P401	L401		1150100010018	1150100010018	COIL	320 MH CHOKE COIL (TOROIDAL)
P401	L402		1150100010018	1150100010018	COIL	320 MH CHOKE COIL (TOROIDAL)
P401	Q401		00D2630609002	00D2630609002	IC	NJM2068DDC +T
					VOLUME PWB (P501)	
P501	C517		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P501	C518		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P501	J501		0450100030090	0450100030090	CONN.	10MQ-ST-L
P501	R555		0753100010018	0753100010018	VAR. RES.	RK16812MG
P501	S501		0650100010070	0650100010070	SW	PUSH SWITCH ALPS SPUN12
					POWER STAGE PWB (P701)	
P701	C719		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P701	C720		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P701	⚠ C801		1340500010008	1340500010008	ELECT. CAP.	! 15000UF 63V(MARANTZ ORIGINAL)
P701	⚠ C802		1340500010008	1340500010008	ELECT. CAP.	! 15000UF 63V(MARANTZ ORIGINAL)
P701	C951		nsp	1340100655010	ELECT. CAP.	RA2-50VR47ME3#8-T2
P701	C952		nsp	1340100655010	ELECT. CAP.	RA2-50VR47ME3#8-T2
P701	C953		nsp	1340100445040	ELECT. CAP.	RA2-25V470ME3#8-T2
P701	C954		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P701	⚠ D801		2040500030040	2040500030040	DIODE	!FRH10A15
P701	⚠ D802		2040500020010	2040500020010	DIODE	!FCH10A15
P701	D951		nsp	2010500013060	DIODE	HSS81150V 150MA
P701	D952		nsp	2010500013060	DIODE	HSS81150V 150MA
P701	⚠ G801		1890100010020	1890100010020	CAP.COMP.	! RFD2B474K 0.47UF+6.8OHM
P701	J751		0450100020060	0450100020060	CONN.	IMSA-1068-06Z042 6P
P701	J752		0450100020060	0450100020060	CONN.	IMSA-1068-06Z042 6P
P701	J753		0450100020060	0450100020060	CONN.	IMSA-1068-06Z042 6P
P701	J754		0450100020060	0450100020060	CONN.	IMSA-1068-06Z042 6P
P701	⚠ KT01		2170500010040	2170500010040	TRS.	! 2SA1186/2SC2837 PAIR (Q729/Q731, Q730/Q732)
P701	⚠ Q719		2130500040010	2130500040010	TRS.	! C3419 Y 40V 0.8A PC=1.2W (5W)
P701	⚠ Q720		2130500040010	2130500040010	TRS.	! C3419 Y 40V 0.8A PC=1.2W (5W)
P701	⚠ Q721		00D2730281906	00D2730281906	TRS.	! 2SC2705 (O/Y)
P701	⚠ Q722		00D2730281906	00D2730281906	TRS.	! 2SC2705 (O/Y)
P701	⚠ Q723		00D2710168900	00D2710168900	TRS.	! 2SA1145 (O/Y)
P701	⚠ Q724		00D2710168900	00D2710168900	TRS.	! 2SA1145 (O/Y)
P701	⚠ Q725		00D2730333003	00D2730333003	TRS.	! 2SC3423 (O/Y)
P701	⚠ Q726		00D2730333003	00D2730333003	TRS.	! 2SC3423 (O/Y)
P701	⚠ Q727		00D2710202002	00D2710202002	TRS.	! 2SA1360 (O/Y)

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PWB NAME	POS. NO.	VERS. COLOR	PART NO. (FOR EUR)	PART NO. (MZ)	PART NAME	DESCRIPTION
P701	⚠ Q728		00D2710202002	00D2710202002	TRS.	! 2SA1360 (O/Y)
P701	⚠ Q729		nsp	nsp	TRS.	! 2SC2837(R/O) PAIR WITH Q731
P701	⚠ Q730		nsp	nsp	TRS.	! 2SC2837(R/O) PAIR WITH Q732
P701	⚠ Q731		nsp	nsp	TRS.	! 2SA1186(R/O) PAIR WITH Q729
P701	⚠ Q732		nsp	nsp	TRS.	! 2SA1186(R/O) PAIR WITH Q730
P701	Q951		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P701	Q952		2130500020050	2130500020050	TRS.	KTC3200 RANK=GR
P701	Q953		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P701	Q954		2110500020090	2110500020090	TRS.	KTA1268 RANK=GR
P701	Q955		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P701	Q956		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P701	Q957		00D2690206908	00D2690206908	TRS.	KRC102M-AT(10K-10K)
P701	Q958		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P701	⚠ R771		1210500034060	1210500034060	RES.	! 220 OHM +-5% 1/4W
P701	⚠ R772		1210500034060	1210500034060	RES.	! 220 OHM +-5% 1/4W
P701	R753		1610100010040	1610100010040	TRIM RES.	RH063LCJ3R 2.2K OHM
P701	R754		1610100010040	1610100010040	TRIM RES.	RH063LCJ3R 2.2K OHM
P701	R966		00D2790034054	00D2790034054	VARISTOR	PTH9M04BC222TS2F333
					STANDBY PWB (P851)	
P851	C852		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P851	C854		nsp	1340100665040	ELECT. CAP.	RA2-50V010ME3E#8-T2
P851	⚠ C855		1340100505090	1340100505090	ELECT. CAP.	! RA2-25V222M
P851	C856		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P851	C857		nsp	1340100595060	ELECT. CAP.	RA2-35V221MH3#8-T2
P851	C858		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P851	C859		nsp	1340100665040	ELECT. CAP.	RA2-50V010ME3E#8-T2
P851	⚠ C861		1340100645080	1340100645080	ELECT. CAP.	! RA2-35V332MK7#8-T2
P851	⚠ C862		1340100645080	1340100645080	ELECT. CAP.	! RA2-35V332MK7#8-T2
P851	⚠ D851		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D852		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D853		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D854		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D855		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D856		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D857		2040500043040	2040500043040	DIODE	! D1NJ10 100V 1A SBD
P851	⚠ D858		2040500043040	2040500043040	DIODE	! D1NJ10 100V 1A SBD
P851	⚠ D859		2040500043040	2040500043040	DIODE	! D1NJ10 100V 1A SBD
P851	⚠ D860		2040500043040	2040500043040	DIODE	! D1NJ10 100V 1A SBD
P851	⚠ D861		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D862		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D863		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D864		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D865		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ D866		2030500013020	2030500013020	DIODE	! 1D3 1A/200V
P851	⚠ F851		0520100150000	0520100150000	FUSE	# 3.15 A 250V BS LISTED
P851	⚠ G851		1890100010020	1890100010020	CAP.COMP.	! RFD2B474K 0.47UF+6.8OHM
P851	J251		0460100040050	0460100040050	TERMINAL	YKC21-3046 2P CINCHI
P851	⚠ L851		1013100020028	1013100020028	TRANSF.	# STANDBY TRANSFORMER FOR 230V
P851	⚠ L852		0820100017050	0820100017050	RELAY	# SDT-S-109DMR TV-8 10A RELAY
P851	L853		1190100014090	1190100014090	COIL	BL02RN2-R62T2 FERRITE BEAD
P851	L854		1190100014090	1190100014090	COIL	BL02RN2-R62T2 FERRITE BEAD
P851	L855		1190100014090	1190100014090	COIL	BL02RN2-R62T2 FERRITE BEAD
P851	Q214		00D2690204900	00D2690204900	TRS.	KRA102M-AT(10K-10K)
P851	Q851		2130500010020	2130500010020	TRS.	KTC3199 RANK=Y
P851	⚠ Q852		2310100014080	2310100014080	IC	! NJM78L05A
P851	⚠ Q853		2310100020050	2310100020050	IC	! NJM7805FA +5V
P851	⚠ R855		1210500010040	1210500010040	RES.	! 1 OHM +-5% 1/2W
P851	⚠ R856		1210500010040	1210500010040	RES.	! 1 OHM +-5% 1/2W
					POWER SW PWB (P891)	
P891	⚠ S891		0610500020060	0610500020060	SW	# ESB92S17B TV-5 STROKE=1.5MM
					SPK TERMINAL PWB (P971)	
P971	C971		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P971	C972		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P971	C973		nsp	1340100705030	ELECT. CAP.	RA2-50V100ME3E#8-T2
P971	J974		0460100010060	0460100010060	TERMINAL	T6549-D SPEAKER TERMINAL
P971	J975		0460100060010	0460100060010	TERMINAL	T6549-E SPEAKER TERMINAL
P971	L971		0820100030080	0820100030080	RELAY	G5PA-28 5A/250VAC OMRON

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.